A Post-Graduate Lecture
ON
THE NERVOUS SEQUELÆ OF INFLUENZA.

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GENTLEMEN,—"The evil that men do lives after them," and the statement is as true of individual maladies as of individual men. It is conspicuously true of the acute febrile diseases, the effects of which persist for months, and sometimes years elapse before the sufferer regains his former level of health. Besides the direct depression of strength which all acute diseases entail, these maladies are often followed by morbid processes which are, in effect, secondary diseases, having their own injurious results, although they are themselves the consequence of the primary affection. The frequency varies with which such secondary maladies follow the acute diseases; some have one special consequence, whilst others may be followed by any one of many morbid processes, trivial or grave, prompt or tardy in occurrence. Perhaps there is no disease which is so often followed by these secondary affections, and in which they are at the same time so varied, as the strange disease of which we have lately had such abundant experience—influenza. I can scarcely err in assuming your intimate knowledge of its characteristics, because there are few adults in this country who have not experienced the sufferings it causes, and I shall not be far wrong if I venture to assume that there are few medical practitioners who have not gained a knowledge of the disease in the most useful, but least pleasant, of all schools—that of personal experience. The disease is, we may reasonably hope, at last passing away, but the evil it has done is with us still; for this reason, and because its sequelæ consist, for the most part, of disturbances of the nervous system, I have thought that it might be useful to you if I take this opportunity of giving you an outline of the chief affections which occur as the consequences of influenza. It may be especially useful to you, because many of these are now coming under the notice of practitioners, and some are of such a character, and occur in such relations, that their connexion with the primary affection may easily be overlooked.

Influenza is a strange disease. Amongst the features it presents which cannot but excite surprise not the least surprising is this, that about eight times each century, for at least 300 years—and probably, at longer intervals, for more than twice that time—wave after wave of the disease has passed over England and over Europe generally, and not over Europe only, but over all the temperate regions of the earth, and each one has come and gone and left mankind no wiser than before. With the rapidly increasing means of investigation and increased ability to study disease that modern times have brought, the statement is not less true of the epidemics of this century than of those which have gone before it. In spite of the vast augmentation in the means of research, in the knowledge of the nature of disease and of where and how to search for its indications, the recent epidemic has likewise come and gone, or at least is going, with its mystery unrevealed. It has kept its secret from the keen eyes of the present day, with all their aids to observation, as it kept it from the eyes, not less keen but unaided, of the older time. Facts regarding it have been gathered on which theories, more or less unsubstantial, may be built; but so little definite foundation, even for hypothesis, has been secured that we cannot feel surprised if some future epidemic should show to the still better equipped investigators of that day that the real facts concerning the nature and mode of extension of the disease are not those which seem to us most likely. But when we look at the malady as it has recently presented itself to us, and when we compare its features, both as affecting the individual and as an epidemic malady, with those of the acute specific diseases, it is difficult to resist the conclusion that its nature must correspond with that of other maladies which have been proved to be due to what is termed an "organised virus"—that is, to living organisms and not to a simple chemical agent; and this throws light upon some of the effects of the disease on the nervous system. We find amongst its sequelæ diseases which are occasionally met with as the consequences of unquestionable specific maladies known to depend upon an "organised virus." Although these consequences of influenza are not common their relation to it is very distinct. I may mention two in particular—meningitis and multiple neuritis. The latter is especially important because we know a good deal about the other causes on which it depends. We know that whenever we find symmetrical inflammation of the nerves of the limbs, developing as an acute or subacute disorder, we are justified in assuming that there is a toxic agent circulating in the blood, of which it is the result. So clear is this fact that we are justified in coming to the same conclusion in the cases in which it follows, sometimes at an interval of several weeks, an acute specific disease, such as smallpox. The explanation generally received of the interval which separates the consequence and the cause, an explanation that has certainly a high degree of probability, is that such multiple neuritis is the result of a chemical substance formed by the organisms which constitute the virus of the primary disease in the process of their growth in the system. The primary disease is ascribed to the presence of the organisms, the secondary disease to the material which they produce. The theory that the latter depends upon such a chemical substance, or "toxine," and not on the organisms themselves, is supported by all that we certainly know of the causation of such neuritis. It may be produced by metallic poisons such as lead and arsenic; it may be also caused by chemical substances of organic nature such as alcohol, which is a product of the growth of minute organisms outside the body. It is certain that morbid processes in the nerves and elsewhere after other diseases (as diphtheria)[1] are due to a toxic agent of chemical nature, and hence we may conclude that it is so in the case of post-influenzal neuritis. If this conclusion is valid the reversal of the process of reasoning may lead us to assume that the antecedent disease is due to the presence of organisms in the system. This has been the conclusion of many investigators, and indeed of most of those who have endeavoured to find some explanation of the malady and of its after-effects. It deserves our notice because it enables us to grasp more comprehensively the various phenomena we are about to notice.

Before we discuss the effects of influenza on the nervous system I may caution you to beware of regarding all that follows a disease as its direct effect. Every acute disease leaves behind it feeble health, and feeble health, to whatever cause it is due, is a potent agent in predisposing to disease of many kinds. Many of those who are generally weakened by influenza become, in consequence of this mere weakness, at some time or other the subjects of disease which has no direct connexion with the cause of the weakness. Yet we sometimes read of a result of influenza, attributed directly to it, which only commenced after a year of general debility. We ought to regard as the actual sequelæ of influenza only those affections which come on within a few weeks of the primary malady or which, if a little longer delayed, are of the same nature as those which are common at an earlier period. We have all and always to keep before our minds the danger of an unconscious fall into the *post propter* fallacy. This caution is the more necessary because my special object to-day is to direct your attention to the sequelæ of influenza, some of which may not be thought to be consequences of the disease, either because their onset is separated from it by an interval greater than usual, because they often follow an attack of influenza which is very slight in character, and also because some of them are not common, so that even those practitioners who have seen many cases of influenza may not at first recognise the relation to it of one of these less common sequelæ. But I must briefly mention also those which are common, in order that the others may fall into their proper place.

The manner in which the nervous system is disturbed in some of its functions in the course, and especially at the onset, of the primary disease must be so familiar to you as to make a description of it superfluous. The severity of the headache, the pain in the back, and the mental and the physical depression, are almost more than familiar; but it is necessary to note the disturbance which occurs in the primary disease because many of the subsequent symptoms are

[1] Martin: Gulstonian Lectures, 1893.

either a prolongation of those of the influenza or they are, as it were, a modified repetition of them after an interval of time. Two general facts regarding these sequelæ are of especial importance. One is that their occurrence—at any rate, the occurrence of many that are most troublesome from their character and duration—bears no relation to the severity of the primary disease. They follow attacks of influenza which are slight as well as those which are severe. In this respect they resemble the well-known character of the sequelæ of some other acute specific diseases. The disparity between the causal disease and its consequence is notorious, for instance, in the case of diphtheria, in which the most severe paralysis may follow an attack which is of the most trifling degree. A second general fact, and one that is, indeed, connected in some measure with the first, is that many of the most serious sequelæ follow second or third attacks of influenza. The disease, as you know well, affords no protection against a recurrence, resembling in this the diseases which seem to be only just attaining specificity so far as causation is concerned—diphtheria and typhoid fever. Moreover, as a rule, second or third attacks of influenza are much less severe than the first. I believe that this is true also of typhoid fever. But the mildness of these recurrences, together with the fact that certain grave sequelæ are more apt to follow them than the first attack, have a tendency very often to make the observer fail to recognise the relation of the sequel to its cause.

The first symptom of the primary disease which we may specially note is the pain that is felt in the back and, to a less extent, in the limbs. Pain may be felt in the spine, but the worst pain is in connexion with the muscles of the back, especially in the lumbar region, where it is very much like the pain that precedes small-pox. Its seat is apparently the fibrous tissues between the muscles and about them and the spinal column. It is lumbago, but is more extensive than the common form and with the addition of spontaneous pain. It seems to have its origin in the nerves which terminate in the fibrous tissues or in the muscles themselves. It resembles what is called "rheumatism" of those tissues, and the importance of it, for our present subject, is that chronic rheumatism of the fibrous tissues is occasionally a most troublesome sequel of influenza. It is a consequence, moreover, that is probably significant in more respects than we can clearly perceive, and especially in connexion with the conception of influenza as a specialised catarrh, apparently sometimes excited by cold; whether this is real or only seeming, it often resembles in many features common "colds." It has thus a relation, probably more than superficial, with the conditions that produce this rheumatic state. The conditions which are included under the term "fibrous rheumatism," those, for instance, of which lumbago is a type, have received very little minute and exact study. Our conception of its symptoms is definite enough, at least in the mind and memory of most of those who have reached middle life, but our conceptions of its nature are extremely vague and we are apt to transfer to the process the vagueness of our ideas. We think of it as a sort of intangible hyperæsthetic state. I know of no observations on any histological changes that underlie it, but I know of no attempt to discover any. Opportunities, it is true, are rare, especially to those who can make good use of them, but there are many fatal affections due to cold in which such pains have occurred not very long before death, and in patients who have suffered from many attacks of this character it is possible that some permanent traces of tissue change might be found. A search for them is the more important because, whatever may be the nature of this transitory fibrous rheumatism, one thing is certain—it is capable of spreading and becoming in a suitable seat a process of actual and even severe inflammation, with all the tissue-changes which inflammation entails. Many cases of sciatic neuritis arise in this manner. True lumbago or that form which has its seat over the sacrum, and is related to movement, is distinctly seated in the tendinous attachments of the muscles; the rheumatic pains may spread along the fasciæ to the sciatic notch, and there, reaching the sheath of the nerve, may be transformed into an inflammation of this sheath with all its characteristic and enduring symptoms. The inflammation may spread into the interstitial tissue of the nerve and its fibres may suffer in their conducting functions by the compression of the inflammatory products, so that muscular wasting and areas of anæsthesia may afford conclusive proof that grave organic changes have resulted from that which was, in its early stage, the process which we call "simple fibrous rheumatism."

As I have just said, such rheumatism is not uncommon as a sequel to influenza, and it is especially common at the present time, having, in many cases, succeeded a comparatively slight recurrence of the disease. The pains in the muscles of the back or about the muscles of the limbs, continue, or those of the primary affection may cease and be renewed after an interval of a few days or at most of a few weeks. They spread in one or many regions, but often become fixed in some one district, and continue there as pain on movement, sometimes even pain at rest, with tenderness also on pressure. Nerves in the vicinity of the affected fibrous tissues may become distinctly tender, and spontaneous pain may follow their course, whilst that on movement is felt through a wider area.

These persistent rheumatic affections after influenza occur especially in those who inherit a predisposition to gout or to that form of rheumatism which is allied to gout and is so often a result of this disease in ancestors. They occur chiefly in persons who are in the later periods of life, of either sex; but these affections occur also independently of this cause. Most practitioners, and all whose work is in rural districts, must be familiar with the great frequency of chronic fibrous rheumatism in the old, how often it anticipates the effect of age in disabling the labourer, in whose inheritance gout assuredly has no place. The constitutional state which gives rise to it seems to be the result of the circulation in the blood of imperfectly changed products of the metabolism of the tissues, increased by imperfect digestive change in the material which the blood conveys to the tissues. Such imperfection is probably the result of the degenerative changes in the various organs which are concerned with the transformation of the substances ingested, and with the due changes in those which should be prepared for expulsion from the system, and the effect of the inadequacy of the organs is to overload the blood with chemical substances of a more or less toxic character, closely allied to those which are probably the active agents in causing many of the manifestations of gout. You have doubtless not failed to note the growing tendency to regard the retention of uric acid as only one element in gout. It seems to be the agent in causing arthritis and some other local processes, but to be accompanied in the blood by other material, also the result of the imperfection in the constitutional chemistry, which is, perhaps, more potent in deranging the nervous system. If so we can more readily understand that some elements in gout should be almost incidental to age and that those who inherit the latter malady, who have led careful lives, indisposing the inherited diathesis to manifest itself in the common manner, should suffer severely from these additional influences which age brings with it, and often then become the subjects of intense and acute forms of articular inflammation. Such a train of causes is to be traced in most of the subjects of the severer rheumatic sequelæ of influenza, which seems often to supply the pathogenic influence required to induce activity in the latent tendencies. These patients have not suffered until the acute disease added its special toxic influence to that which before was without manifest effect, and might have remained so; but under this potent reinforcement rheumatic affections may become, as I have said, extremely severe and attain in many cases such a degree and fixation that the sufferer's failing powers are in many cases quite inadequate to liberate the system from the toils in which it has become bound.

Not long since I saw a lady of seventy to whom all that I have said applied precisely. After influenza rheumatic pains persisted and became fixed at last in the spine, and the whole spine was so tender and so painful that her life was a burden. The pains radiated from it and were also felt in the arms and hands, and in the fingers and wrists the fibrous tissues had suffered so much as to practically disable the limbs, and her general suffering was such as to prevent her leaving her bed. This state had existed for a year and there seemed to be no prospect that it would pass away. In another case, that of a man of the same age, the rheumatic pains had become fixed in the right lumbar region and had extended to the right lower half of the abdomen and to the upper part of the thigh on its front and outer side. They were most severe and were accompanied with great tenderness; but a careful examination showed that all the tenderness was in the fibrous structures of the wall of the abdomen, and the pain took the course of the nerves. The fibrous tissues about the joints may, in these cases, suffer to an extent that induces thickening and the inflammation may pass within the capsule. So, in one patient aged sixty a state had developed in the hands indistinguishable from chronic rheumatoid arthritis, with nodular swelling of the joints, adhesions, pain and tenderness,

with the "arthropathic muscular wasting." But of all this there was no trace before the influenza. In such cases, besides the pain that we must refer to the fibrous tissues, there is special pain along the nerves, suggesting that a secondary neuritis might have occurred and induced the secondary pains of a neuralgic character that are its frequent sequel. In other cases such nerve pains preponderate over the symptoms of an affection of the fibrous tissues, and the pain may quickly assume a more typical neuralgic character, occurring in paroxysms and sometimes changing its seat. It is then a matter of doubt how far the original affection was an intense neuralgia or an actual neuritis of limited seat, but in most of the cases that come into this group a limited primary neuritis is the more probable. A hard-working lawyer of sixty-three, who had been liable to neuralgia, had an attack of influenza in which the pain in the back was very severe. When the acute disease was over this pain did not cease but became fixed about the lower dorsal and lumbar spine and gradually extended obliquely forwards and downwards on each side of the abdomen, apparently in the course of the lower dorsal and lumbar nerves. At first it was spontaneous and more or less paroxysmal, but when I saw him six months after the onset it was gradually subsiding, had ceased to be spontaneous and was felt only on movement. Again, a young and active medical practitioner had an attack of influenza which was not severe—not severe enough, indeed, to compel him to use the necessary caution. He yielded to the urgent claims of others, which have made the disease so fatal in our profession, and went about before he was well; a relapse compelled him again to take to bed, and there he had to stay for three months. In a few days severe pain came on in the right side of the chest, about the ninth or tenth intercostal nerves. It was so intense that for weeks he could not lie down in bed, and the inhibition of respiration caused constant gasping dyspnœa. Not the slightest trace of intrathoracic mischief could be discovered, but the pain went on, and only ceased occasionally on the right side, when it was felt, in less degree, in the corresponding part of the left side. It disabled him for work for several months, and even then, although slighter, it still occurred and was felt from time to time. Even three years after the primary illness it troubled him, being chiefly excited by exertion and sometimes lasting for a week. The pain was at first, and indeed always, accompanied with tenderness and he had occasional pains in the lower part of the spine.

The most common form of nerve-pain after influenza is, however, primary neuralgia, in which there is no suspicion of neuritis, in spite of the fact that this also may be accompanied by some rheumatic pain. On the same page of my case book on which the last is recorded I find the notes of another which illustrates the manner in which neuralgic pains may seem to grow out of the severe headache of influenza. In this patient, a man of fifty-two, the pain persisted in more limited position, occupying the frontal region and becoming distinctly paroxysmal. It continued and had become almost constant when I saw him four months after the influenza; sharp pain started from the bridge of the nose and passed to each temple, and when severe would extend in less degree to the back of the head. Exacerbations, lasting two or three days, often occurred, and during them slight pain was felt in the eyes and their use induced a feeling of giddiness. In this case no antecedent predisposition could be traced. The most common seat for post-influenzal neuralgia is in the region of the head, as might be expected from the pain of the primary disease. The most frequent varieties are: supra-orbital, supra-maxillary, ophthalmic, cervico-occipital and cervico-brachial; but it is not uncommon in the arm and side of the chest, and in certain cases it is apparently determined by some local influence. Thus a lady had an innocent tumour in the left breast and soon afterwards endured an attack of influenza, in which the pain first fixed itself in the breast and then extended to the left arm, becoming there particularly severe. The tumour of the breast was removed, but the pain in the arm continued up to the time I saw her, a year after the influenza, and then extended down the inner side of the arm and forearm to the inner or sometimes to the outer side of the hand. When severe it radiated to the scapula, and sometimes was felt in slight degree in the other arm. Except for a history of lumbago there was n indication of a diathetic predisposition. It is an instance of the extremely prolonged duration of some of the cases of post-influenzal neuralgia.

(To be concluded.)

The Croonian Lectures

ON THE

PHARMACOLOGICAL ACTION AND THERAPEUTIC USES OF THE NITRITES AND ALLIED COMPOUNDS.

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LECTURE II.—PHARMACOLOGY OF THE NITRITES.

INFLUENCE OF NITRITES ON THE NERVOUS SYSTEM.

MR. PRESIDENT AND GENTLEMEN,—The nitrites depress the functions of the nerve centres and nerves, but not to the extent which might be expected from their influence on the muscles, vessels and heart. When given in toxic doses they cause in both cold-blooded and warm-blooded animals heaviness and apathy. In man, too, cerebral depression has been seen after toxic doses. Inhalation of the vapours of nitrous ether has been followed by stupor, and after nitrite of amyl in large quantities loss of consciousness has occurred. Such effects are probably due to the direct influence of nitrites on the cerebrum. I have never seen a narcotic influence exercised by medicinal doses of the nitrites, but drowsiness after nitroglycerine, which acts like the nitrites, has been recorded.[1] This may be the outcome of the circulatory disturbance it causes; certainly no narcotic effect has to be feared from the use of nitrites. The sense of distension and throbbing in the head, the dizziness and the headache felt by some after taking amyl, ethyl, or sodium nitrites are manifestly due to circulatory changes; but the prolonged headache, which does not come on always immediately, but may last for twelve hours or more after some nitrites have been taken, is probably not due to the same cause. It is most frequent after amyl and isobutyl compounds. I have felt it myself after both, and also after propyl compounds, but not after ethyl nitrite or sodium nitrite. I am inclined to think it is caused by the alcoholic radicles, and not by the nitrite element, for other amyl, isobutyl and propyl compounds produce the same kind of long-lasting headache. Convulsions in the lower animals are rare after nitrites. They are said to have occurred in man after the injection of amyl nitrite.[2] I once saw twitching of the eye muscles accompany a syncopal condition which followed on the administration of nitrite of amyl. Dr. Brunton, too, alludes to the occurrence of a slight convulsive attack after the same drug. It seems likely that such attacks are connected with syncope or slight asphyxia rather than with a direct action of the drug on the brain, and, considering the rarity of cerebral disturbance after any of the nitrites and the entire absence of the fatality when they have appeared, we may, I think, safely conclude that, though the nitrites may cause some unpleasant symptoms, yet their influence on the cerebrum is no bar to their use even in full medicinal doses. The functions of the cord as well as of the muscles are in frogs depressed by nitrites, both its reflex and conducting power being diminished, the latter, according to Dr. Atkinson, much more slowly than the former. Dr. H. Wood says that the diminution of reflex activity caused by amyl nitrite is never preceded by functional excitement. In man other symptoms so far predominate that even from toxic doses no distinct indication of an effect on the spinal cord has been noticed. We have no proof that the motor nerves are markedly influenced by the nitrites, nor are the nerve endings especially affected by them; at least, it can be shown that they are not more powerfully depressed than are the muscles. On exposing a muscle to a solution of 1 in 1000 of sodium nitrite

[1] Murrell: Nitroglycerine as a Remedy in Angina Pectoris, p. 17.
[2] Strahan: Journal of Mental Science, vol. xxx., p. 252. There is some doubt whether these convulsions were altogether due to the injection.

and recording the contractions produced by stimulation of the muscle and nerve alternately I find that the relative effect of the strength of stimulation is continuously maintained until the death of the muscle. (See Fig 6.) No evidence has been given that even in toxic doses sensory paralysis is produced or that the application of sodium nitrite paralyses the sensory nerve endings.[3] To determine whether it possesses any analgesic influence other than that which arises from its effect on the circulation, I have tried it locally and generally for the relief of pain. Locally applied, I have not found it to possess the slightest soothing influence. I have given it internally in doses of from three to five grains for the relief of pain in various ailments; but save in the case of pains of an anginal character, in headache, and very rarely in neuralgia, I have never found it to be of the slightest benefit. In all cases in which it was given with relief there have been grounds for thinking that the disappearance of the pain may have been due to circulatory changes or to suggestion. It has failed to relieve pains where other analgesics have succeeded. A few cases are, indeed, recorded in which the local application of nitrite of amyl and nitroglycerine is said to have removed the pain of toothache and many where these drugs have relieved headache and neuralgia; but such ailments are so capable of relief by vascular alterations and mental influence that we cannot, in the absence of other indications, infer from their relief that amyl nitrite has a direct analgesic influence.

GENERAL INFLUENCE ON THE CIRCULATION.

I have already alluded to the action of nitrites on the contractile tissue of the vessel walls and on the heart muscle, but the general influence on the circulation requires further notice. The most important feature of this influence is the lowering of arterial tension. Dr. Brunton[4] in 1870 showed that the lowering of tension was due to dilatation of the bloodvessels, and from the fact that this dilatation occurred even after section of the cord he came to the conclusion that the nitrites act on the muscular walls of the arterioles, influencing the muscle fibre directly or through the local ganglia. This view was controverted by Dr. Filehne[5] on the ground that section of the sympathetic interferes with the vascular dilatation produced by the nitrite, and by Dr. Bernheim[6] because after arterioles are dilated by amyl nitrite they may be made to contract by vaso-motor stimulation. The experiments of Drs. Meyer and Friedreich[7] supported the views which Dr. Brunton had expressed; they found that when the effect of nitrite of amyl is restricted to the brain it does not bring about a fall of pressure. The dilatation of the vessels by nitrites when the brain and spinal cord have been destroyed, and in separated organs, which can only result from their influence on the vessel walls, is of course much in favour of the view that they lower tension by their action on the peripheral vessels; and Professor Cash[8] has advanced further evidence that the effect of nitrite in reducing tension is the result of its action on the vessels. Like Drs. Meyer and Friedreich, he finds that nitrite of amyl produces no effect on the circulation when its influence is restricted to the brain; but he has further shown that if the head of an animal be cut off from the circulation inhalation of pure amyl nitrite causes a rapid fall of pressure, which cannot therefore be due to influence on the vaso-motor centre. He also points out that after reduction of tension by division of the splanchnic nerves the nitrites cause a further fall of pressure. Besides reducing the tension the nitrites usually quicken the pulse, and this quickening is generally accompanied, if the dose be small, by such an apparent increase in force as to give the impression that a stimulant effect on the heart has been produced, for the pulse feels fuller and more distinct. Yet experimental evidence indicates that nitrites do not strengthen the actual force of the heart's beat and that they are capable, even in comparatively small amounts, of weakening the cardiac contraction.

The question whether nitrites are, as Dr. Reichert strongly maintains, real cardiac stimulants or not is an important one, for we find nitrites recommended not only where tension is high and relief might be expected from drugs which lower it, but in syncope, heart failure from chloroform, and other conditions in which a stimulant is indicated rather than a tension reducer, and in which any drug which greatly depresses the heart might produce serious consequences. It may be well if I state the main facts concerning the effect of nitrites on the heart which bear upon this question. As I have shown, nitrites in the isolated frog's heart cause acceleration of beat for a short time, though the contractions are rendered somewhat less powerful and afterwards slower. Dr. Atkinson employed 1 of nitrite to 10,000 of blood, and, using Williams' apparatus, noticed a rise in pressure for some minutes, which he attributes to a quickened action of the heart; it was followed by a slow fall and death in from forty to sixty minutes. With 1 in 20,000 the rise due to quickened action lasted from ten to fifteen minutes. In no case has any actual increase in the force of the heart's contraction been observed; but the total work of the heart may be augmented by the increased rapidity of beat. We may presume that a quickening of the heart's action similar to that in frogs takes place in mammals from the direct action of the nitrite on the heart muscle, but here a further quickening is produced by the paralysing influence which nitrite can be shown to exercise on the vagus centre. In mammals, then, as in frogs, no evidence has yet been obtained to show that the individual beats of the heart are strengthened by nitrites, although at first, acting more rapidly, it may do more work in a given time; but the increase in rapidity does not make up for the weakened muscular power and dilatation of the vessels and the tension falls. Only one observer, Dr. Reichert,[9] records a slight rise in tension after the introduction of nitrites into the circulation, and this for not more than half a minute. If, as experiments seem to show, the effect of nitrites is only to quicken the heart's action and not to increase the force of its individual contractions, how are we to account for the markedly greater distinctness of the pulse which is so often noted after the administration of nitrites, and for the increased height in the upstroke — the so-called "percussion wave" — of the tracing which is almost invariably seen after small doses of nitrites? Probably two causes contribute to this: (1) Owing to the dilatation of the arterioles the collapse of the artery is more complete after a dose of nitrite than before it, and the difference between systole and diastole of the artery is more marked both to the finger and in the tracing; (2) the radial artery undergoes greater dilatation owing to the relaxation of its walls under nitrite influence. The pulse, therefore, becomes larger during systole, and, the difference between the calibre of the artery in systole and diastole being augmented, it is felt to be more distinct and more full.

Mr. Pickering Pick many years ago suggested that arterial dilatation might in a reflex manner give rise to increased force of heart-beat. If this were the case, we ought to find in the manometrical tracing taken from the carotid of a dog under the influence of a small dose of sodium nitrite that the fall in tension is accompanied by an increase in the excursions, corresponding to the individual heart-beat; but this is not so, and until we have more evidence we must conclude that, though the heart may do more work in a given time, the force of the cardiac contractions is not increased by nitrites. Although we have no proof that nitrites will increase the force of the heart's beat, we have experimental evidence that they are competent to weaken it, and faintness is occasionally complained of after their administration. The inhalation of amyl nitrite and large doses of sodium and ethyl nitrite are capable of producing it. On one occasion I myself suffered from a very marked syncopal attack after taking a large dose of ethyl nitrite. Whilst my tracing was being taken I suddenly felt faint, the heart beat became slow and the excursion smaller; then a prolonged intermission occurred and faintness compelled me to lie down; the slow beat continued for some minutes after the faint feeling had disappeared. I may mention, in passing, a curious result which followed from publishing in a medical journal a warning with regard to this effect without stating that I was myself the subject of the experiment. A year or two after the record appeared an anonymous novel was published, purporting to show that in consequence of vivisection being allowed hospital physicians and surgeons experimented upon their patients in a horrible manner; and subsequently an appendix called "Dying Scientifically" was issued, giving the sources from which had been culled the heart-rending illustrations of the barbarity of hospital physicians and surgeons with which the novel was filled. Lighting accidentally upon this book some time afterwards, I was

[3] Journal of Anatomy and Physiology, vol. v.
[4] Pflüger's Archiv, vol. ix. [5] Ibid., vol. viii.
[6] Archiv. fur Experimentelle Pathologie und Pharmacologie, vol. v.
[7] Proceedings of the Royal Society, 1891.
[8] Reichert (American Journal of the Medical Sciences, July, 1880, p. 108).

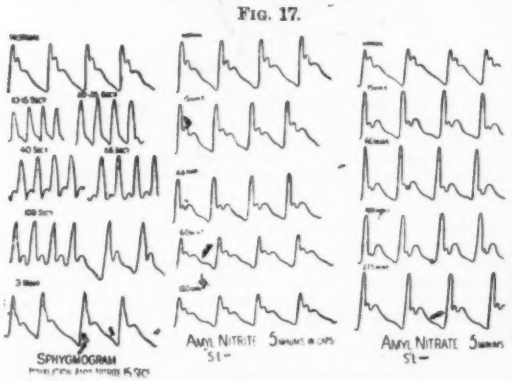
[9] Ibid., p. 170.

amused to find that the experiment upon myself was one of the bases of the attack made on hospital physicians and surgeons. Who, it was asked, were the patients on whom such experiments were tried; and where were they found if not in the ..... Infirmary? And so the trial of the drug on myself was put down as proof of the dangerous experiments made by hospital practitioners upon their patients. This is but another example of the way in which anti-vivisectionist writers get at the "facts" wherewith they try to influence the public mind. I have never myself seen any tendency to syncope after 3-grain doses of sodium nitrite, although I have given this amount extensively. It has been known to occur after this and larger doses.

In deciding whether the nitrites can play the part of cardiac stimulants, it is well to bear in mind the resemblance and differences between their action on the circulation and that of alcohol. Both dilate the vessels. Alcohol, like the nitrites, increases the frequency and—to the finger—the force of the pulse; but, though experimenters are not agreed as to whether it increases either the power of the heart's contraction or the amount of work it does, all hold that alcohol in large amounts decreases the heart's power. In these points there is considerable likeness between the action of alcohol and that of the nitrites. The difference between the two seems to be that the nitrites are far more rapid and seemingly more evanescent in their action. They quicken the beats more markedly and dilate the vessels more quickly and completely. They far more readily depress the action of the heart. On the whole, it seems to me that we must accord to nitrites in small doses a certain degree of that kind of stimulating power which we attribute to alcohol, but it is exercised much more quickly, passes away more rapidly, and is far more readily followed by decreased cardiac power than is alcohol.

There are several points of considerable practical interest to be noted with regard to the effects of nitrites on the tension and the rate of the pulse and on the regularity of the heart beat. The influence of nitrites in the relief of disease is closely associated with, if not dependent on, its tension-reducing powers. It is important, therefore, that we should know how quickly the effects of the various nitrites on tension are produced and how long we may expect them to last. Changes in arterial tension are not often indicated by subjective phenomena, and their extent and duration can only be measured by the sphygmograph. With this instrument I have tried, by means of tracings taken frequently, to estimate the time at which it reaches its lowest point and its duration. The influence of amyl nitrite on the pulse commences a few seconds after inhalation. (Fig. 17.) The tension is reduced to its lowest point in from forty to sixty seconds and remains extremely low for thirty or forty seconds, the pulse waves being reduced in size and sometimes irregular. Then it rises

FIG. 17.



Effect of amyl nitrite when inhaled and of amyl nitrite and nitrate when taken internally.

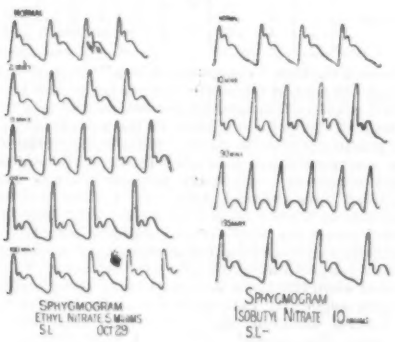
again, occasionally suddenly, and in from a minute and a half to two minutes the pulse is only a little lower in tension than it was before the inhalation. This slight lowering may continue for several minutes. Isobutyl and isopropyl nitrites when inhaled almost act like amyl nitrite. Sir B. W. Richardson, to whom we are so much indebted for knowledge concerning amyl nitrite, has drawn attention to the fact that when it is taken internally its effects are much slighter, though more prolonged, than when inhaled. Instead of the tension falling at once and recovering in two minutes it falls gradually for usually twenty to twenty-five minutes, remains low a short time, and then rises to its normal height an hour to an hour and a half after the dose has been taken. Because amyl nitrite is such a powerful agent when inhaled one drop is regarded as the proper dose, but this is a mistake; from three to five minims may be required to produce about the same effect as that which follows two grains of sodium nitrite. A small dose of sodium nitrite (two grains) distinctly affects the pulse in two or three minutes; the point of lowest tension is usually reached in from eight to forty minutes, and distinct influence on tension ceased in from one to three hours. Ethyl nitrite has much the same effect, and on the whole lasts as short a time. I shall not here allude to the action of other metallic nitrites, since, with the exception perhaps of the strontium salt, they are unlikely to prove useful remedial agents. The combination of cobalt with potassium I once thought might prove useful, but its effects are unreliable, because its decomposition is so greatly modified by the condition of the stomach. The table gives a general idea of the influence on pulse tension and frequency of the two nitrites and nitroglycerine in small doses. Four observations on each drug have been selected from a large number to illustrate the variations which occur in their action.

—	Dose.	Action commences.		Tension lowest.	Duration.	Rapidity of pulse.					
						0.	10 mins.	20 mins.	30 mins.	60 mins.	120 mins.
	Grs.	M.ns.	Secs.	Mins.	Mins						
Sodium nitrite.	2	2	0	35-70	155	66	81	—	90	87	78
	2	3	0	8-40	170	66	74	75	75	68	63
	2	4	40	16	75	84	90	98	92	92	70
	2	8	0	17-85	175	78	96	100	93	81	74
	Drs.										
Ethyl nitrite (2½ per cent. solution).	1	1	0	18-30	110	66	72	—	75	69	66
	1	2	0	15	70	75	75	78	75	75	—
	1	5	0	15-50	115	81	87	87	92	78	—
	1	8	0	15	80	69	75	75	—	69	—
	Grs.										
Nitro-glycerine.	1	2	0.	5-20	50	84	84	78	78	84	74
	1	1	15	3	105	69	72	69	72	64	—
	1	0	40	5-6	80	70	68	72	72	74	57
	1	1	30	2-45	170	72	66	63	66	60	63

I have used the term "duration of action" to signify the period between the time at which the drug is taken and the time at which the tracing first becomes normal, but this may not be the real limit of the action of nitrites on the vascular system. It is quite possible that some vessels, as for example those of the brain, may continue dilated after others have assumed their normal condition. After the tension becomes normal it sometimes falls again slightly, and I have noticed small oscillations in tension for a short time. How long they last I do not know, for they merge gradually into those minor differences which are observed in normal pulse tracings. For practical purposes we may look on the influence of the nitrite as ended when the pulse first reaches its normal tension. It has been suggested that after the lowering of tension by the nitrites reaction may occur and the tension may rise above the normal. Though I have looked for such rise I have found no distinct evidence of it. Many conditions influence the amount of fall in tension and its duration. In persons with high tension pulses the fall is less in degree and duration than in those with a circulation of low tension; in those who constantly take nitrites the influence of the drug on the circulation, though not lost, is distinctly lessened. Though persons vary very much in susceptibility, I have never seen anyone entirely unaffected by such a dose as two grains of sodium nitrite or the inhalations of amyl nitrite, but when the tension is very high, and sometimes during attacks of dyspnœa, the effect may be very slight. The administration of from ten to fifteen grains of bicarbonate of soda with the nitrite delays the appearance of decided lower tension for a few minutes (from six to ten) and seems to lengthen somewhat the time during which the drug acts. A point of great interest in the action of the nitrites

is the minuteness of the amount which will affect the circulation; one-sixteenth of a grain of nitrite of sodium produces a distinct effect on the pulse in most persons. The effect on the circulation does not increase so much as we should expect with the size of the dose. Two grains of sodium nitrite of course lower the tension more and for a longer time than one-sixteenth of a grain, yet the influence is not proportionate to the difference in dose. From four to six grains, again, lower the tension a little more, and sometimes for half an hour longer, than two grains, but here again the effects are not in proportion to the increased size of dose and they commence no earlier. The cause of the difference between the action of any nitrite when inhaled and when taken by the mouth probably depends upon the fact that when inhaled the whole nitrite of amyl molecule comes at once in contact with the vessel walls in the systemic system. Now amyl in very small doses dilates the vessels as a nitrite does, and quite possibly the amyl molecule accentuates the action of the nitrite molecule. Professor Cash finds that the composition and constitution of the fatty molecules have a distinct effect on the tension-reducing power of the corresponding nitrite. The quickening of the pulse after amyl nitrite is very marked, a rise from twenty to thirty beats being common. After nitrite of sodium and nitrite of ethyl in small doses there is usually slight quickening, but it is not always present. It is very difficult, however, to estimate the influence of a drug on the rapidity of the pulse, since the frequency of the heart's action is so easily influenced by slight circumstances. A decreased frequency of the pulse is sometimes seen after nitrites, but this, with small doses at least, is never considerable. After poisonous doses marked slowing of the heart has been in some cases noted. This may be due to the direct influence of the drug upon the heart. It will be remembered that nitrites render the beat of the isolated heart slow after first quickening it. Irregularity of the heart's action has been observed after the administration of nitrites, and in a few cases extreme irregularity has been reported after large doses of sodium nitrite and inhalation of amyl nitrite. Using small doses of the sodium compound, I have never seen any marked irregularity result. In two or three instances out of forty or fifty in which the pulse has been watched carefully for many hours after sodium or ethyl nitrite slight intermission and irregularity have occurred, which had not been recorded before the nitrite was given. Slight irregularity of the pulse is common after the inhalation of amyl, isobutyl and propyl

FIG. 18.



nitrite. On the other hand, I have met with at least four cases in which an irregular action, fairly marked before the administration of nitrites, became distinctly less or disappeared entirely when nitrites were given. I have never seen it seriously increased and I am quite sure that the irregularity of the pulse is no bar to the administration of nitrites when for other reasons they are called for. Amyl nitrite markedly dilates the vessels of the face, neck and upper part of the chest, but evidence of its cutaneous influence is not usually seen in other parts of the body. Flushing of the face is not common after either sodium or ethyl nitrite, yet in some cases it occurs to a slight extent, and in one exceptional case I have known a slight diffused redness over the body as well as the face follow three grains of sodium nitrite.

(To be continued.)

Clinical Lectures
ON
DISEASES OF THE EYE,

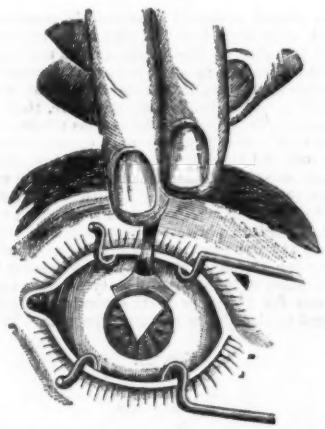
BY C. BELL TAYLOR, F.R.C.S. EDIN., M.D. EDIN.,
SURGEON TO THE NOTTINGHAM AND MIDLAND EYE INFIRMARY.

LECTURE IX.

Cataract Extraction.

GENTLEMEN,—When Professor Waldau, the late von Graefe's assistant, proposed to excise a small portion of the iris and to scoop out cataracts with a spoon he did so because, although at that time suppuration of the eyeball was by no means rare after cataract extraction, it was hardly ever observed as a result of simple iridectomy. It occurred to me that a slight enlargement of Waldau's incision would enable us to dispense with the spoon, and it was no doubt by a similar process of reasoning that von Graefe was led to the adoption of his celebrated method of linear extraction. Von Graefe, however, whilst dispensing with the spoon, placed his incision much further back than Waldau's, in order, as he said, that it might coincide with a meridian of the globe; and as it was obviously impossible to make such a wound either with the broad keratome used in Waldau's operation (Fig. 1) or with the equally broad cataract knife then in vogue

FIG. 1.

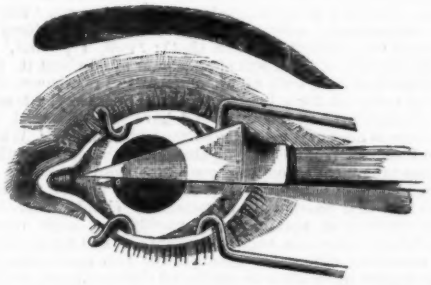


(Fig. 2) it became necessary to invent the long, narrow-bladed instrument (Fig. 3), which is known as von Graefe's, and which has since proved to be such a valuable addition to the armamentarium of the ophthalmic surgeon. The advantages claimed for von Graefe's operation are the following: The sclerotic, which alone is incised, is much less likely to suppurate than the cornea; the elasticity of the tissues in this situation and the linear character of the wound render separation of its edges almost impossible; whilst the conjunctival flap, which becomes at once agglutinated to the sclera, is a potent safeguard against microbial infection.[1] On the other hand a large iridectomy is necessary with this form of incision. The close approximation of the edges of the wound—whilst ensuring quick healing—renders the delivery of the lens somewhat difficult; hæmorrhage often complicates the extraction, the vitreous is prone to protrude, and iritis, irido-cyclitis, and sympathetic ophthalmia are more apt to occur with this than with almost any other cataract operation. Clearly the drawbacks exceed the advantages; hence those who adopted, or who were supposed to have adopted, von Graefe's operation invariably modified it, so that it is now commonly said that "nothing remains of the original method but the knife."

[1] Manolescu, Knapp and others: Transactions of the Heidelberg Congress, 1888, p. 164.

The modifications all tended in the same direction—the advancement of the incision either into the sclero-corneal or into the corneal tissue, with the substitution of a small flap for the linear incision; and this operation—the modified von Graefe, as it is called—which I adopted as an improvement upon Waldau's scoop extraction upwards of twenty years ago, is the operation *par excellence* with most ophthalmic surgeons to-day.[2] Unfortunately it involves—if I may say so—the mutilation of the iris; and, as it is not only possible, but easy, to extract the lens without interfering with the iris at all, it is not to be wondered at that some modern surgeons, shaking off the prejudice so greatly due to the weight and authority of von Graefe's name, should at last have ventured to enlarge

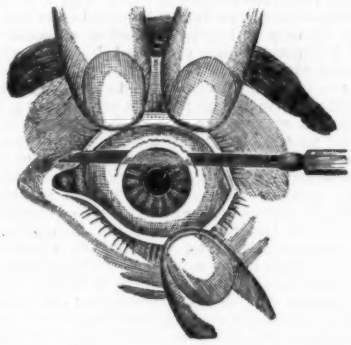
FIG. 2.



Waldau's incision still further and to dispense not only with the spoon but also with the iridectomy.

You will be curious to learn what claim the modified von Graefe or combined method—that is, iridectomy combined with extraction—has at this advanced period to be considered the operation *par excellence* with so many ophthalmic surgeons. Well, it is maintained that this method obviates bruising of the iris and prevents prolapse of the iris; that it enlarges the pupillary area, thus increasing the chances of subsequent vision; and that it greatly facilitates the exit of the lens, forms a "gateway" for the harmless escape of the aqueous humour (Swanzy) and reduces the necessity for formidable secondary operations to a minimum. On the other hand, it is urged that the extent of wounded surface

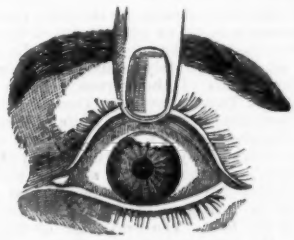
FIG. 3.



is doubled by excision of the iris; that the whole proceeding is a derogation from those sacred principles of conservatism which ought to animate every surgeon; that cocaine, whilst potent as an anæsthetic in simple extraction, is powerless to prevent the pain, the spasm and the resistance provoked by excision of the iris; that iridectomy actually causes prolapse, prolongs the operation, fills the chamber with blood and exposes the capsule of the lens, the vitreous and the uveal tract to all the dangers of trapping, protrusion and infection;[3] that it is an error to suppose that the lens and cortex may not be readily extruded without any breach of the iris (Schweigger); and that the visual and cosmetic results are far better when the pupil is left untouched and free in the anterior chamber. Certainly the objections to iridectomy as a part of extraction are great and cogent to a degree, and yet it cannot be denied that the majority of ophthalmic surgeons are in favour of it. Why is this? Simply because, although iridectomy does not prevent, nay even though it causes, encleisis and hernia of the iris at the angles of the wound, it undoubtedly does prevent the intrusion of a large flap of that membrane between the lips of the incision. If we could avoid this impaction of the iris in mass, this detested prolapse, this *bête noire* of extraction, we should certainly never dream of excising the iris; and how to guard against it without cutting the Gordian knot, without spoiling the pupil, is the problem which awaits solution to-day.

Let us see what has been done already in this direction. Prolapse may be prevented by excising only the periphery of the iris (Fig. 4); by reducing tension (if it is above par, or

FIG. 4.



is likely to rise above par); by treatment prior to extraction; by taking care that the wound shall be so accurately placed that there shall be no prolapse due to delayed healing; by insisting upon complete evacuation of the chamber, so that there shall be no protrusion, the result of swollen cortex; by scrupulous attention to dressing, so that there may be no reflex spasm; and by securing the intelligent coöperation of the patient, so that there may be no accident during or after the operation. When the globe of the eyeball has been incised the wound is closed and the anterior and posterior chambers, as a rule, reformed within three or four hours; the union, the connecting bond, however, is very slight, and if during the next day or two the patient coughs violently, strains or sneezes, or squeezes the lids together the aqueous will almost certainly be forced out and the iris carried with it between the lips of the incision. Common sense will dictate to you what precautions to adopt, what regimen to suggest, what advice to give, in order to guard against these accidents, and although I must confess that the surgeon has an anxious time of it for the first day or two after simple extraction I do not think that, on the whole, in adopting this operation you will have very much to fear; prolapse is the only danger, and certainly in the great majority of cases you will avoid prolapse. Slight prolapse is not of very much consequence, and coarse prolapse, when it does occur, may usually be successfully dealt with by expectant treatment and by the occasional subsequent formation of an artificial pupil. Fuchs insists upon iridectomy as a part of extraction "when there is a tendency to conjunctivitis or exophthalmos, or protrusion of the iris, when the pupil is rigid or the cataract immature, when the health is bad or when the patient has only one eye." You will use your own judgment under such circumstances, of course, but I have many times myself performed simple extraction in cases in which these drawbacks existed, and, as you have seen, with the best possible results.

With regard to the technique of the operation everything of course depends upon the first incision, and its form, its size and its position are consequently of the utmost importance. I prefer myself to make a small flap upwards varying from three to five millimetres in height, because in this situation the wound is better protected than when made downwards and is less likely to become infected than when exposed in the gutter formed by the two lids. Galezowski diminishes the height of the flap by making his puncture and counter-puncture in the sclerotic, completing his incision in the summit of the cornea—as he says, "afin d'éviter la hernie de l'iris"; whilst Perrin, Warlomont, De Monoyer, Teale and others encroach more or

[2] See my paper on a New Method of Extracting in Cases of Cataract, published in the Edinburgh Medical and Surgical Journal for February, July and August, 1868.

[3] One of the worst inconveniences of the combined operation is the trapping of the capsule, so dangerous, and which is unknown in simple extraction.—Valude: Bulletin Clinique de l'Hospice des Quinze Vingts, 1892, p. 40.

less on the cornea. I think, however, that you will find that the best site for the wound is in the corneo-sclerotic junction, because in this situation the iris is less likely to prolapse, the wound heals more quickly, is less likely to suppurate and leaves less scar and no astigmatism.[4] However placed, be sure that the section is large enough; an incision a little larger than need be is of no great consequence, but if too small it is likely to lead to serious complications. The knife which I use is much narrower and finer than von Graefe's and is bent at an angle so that the right hand may, if desired, be used for the left eye. (Fig. 5.) I

FIG. 5.

always fix the globe with a pair of perforating forceps and, having entered the knife in the corneo-sclerotic junction just above the horizontal meridian at the base of the proposed flap, pass it quickly across the anterior chamber until the point emerges at a counter-puncture similarly placed. I then cut rapidly upwards so as to get in front of the iris, which would otherwise fold over the edge of the blade, and having got in front of it deliberately complete the section close to the vascular limbus of the cornea. Some surgeons—Schweigger, Gayet, Tweedy, Swanzy, Trousseau and others—prefer to incise the capsule with the knife as it passes across the anterior chamber; but I think you will find it best to do this more deliberately with the fleam-shaped cystotome, deftly introduced as the second step of the operation beneath the upper border of the pupil, and to confine the incision to the periphery of the capsule on a level with the equator of the lens. The projection of the crystalline lens testifies to the sufficiency of the incision, and slight pressure will then cause it to revolve on its axis and to present at the pupil, which it slowly dilates prior to emerging, followed by a mass of cortex. If the cataract does not stir the capsulotomy is insufficient, the lens larger than supposed, the iris too rigid, or the corneal wound too small, or the crystalline itself is so shrunken as to be uninfluenced by any pressure which may be safely brought to bear, in which case the capsule must be re-incised, the corneal wound enlarged with scissors, iridectomy performed or the cataract removed with a spoon. When the periphery only of the capsule has been incised, as was first recommended by Knapp, cortical débris (if any be left or overlooked) are comparatively innocuous; but in any case they are easily washed out by flooding the conjunctival sac with a sterilised and lukewarm solution of common salt (½ per cent). Small flocculi may be in this way visibly washed into the area of the pupil and readily extruded without introducing any instrument between the lips of the incision. The iris, which frequently prolapses, may then be readily replaced *in situ* by gentle massage through the closed lids, whilst contraction of the pupil is ensured by the instillation of a drop of solution of eserine. It is of the utmost importance to keep the wound from contact with the external air, so that usually I do not remove the borated pad which is placed over the closed lids for two or three days, or open the eye until the sixth day; it is also well to put cocaine and eserine into the non-operated eye and to limit the motion of the incised organ by closing its fellow. With regard to antiseptics I use a 4 per cent. solution of boracic acid,[5] and those instruments and appliances which will bear it are sterilised by exposure to the hot air of the lamp which I always use for operating, whilst the cutting instruments are rendered innocuous by immersion in absolute alcohol.

That the objections to this simple operation are neither valid nor very grave may, I think, be fairly inferred from the comparative statistics of both operations, of which the following, furnished by Dr. Greefe from Professor Schweigger's Clinique, may be taken as an average specimen:[6]—

WITHOUT IRIDECTOMY. (450 Operations.)		WITH IRIDECTOMY. (371 Operations.)	
Successful ..	346 or 76·5 per cent.	Successful ..	278 or 75·1 per cent.
Secondary cataract	84 or 19·1 „ „	Secondary cataract	71 or 19·2 „ „
Eyes lost ..	20 or 4·4 „ „	Eyes lost ..	22 or 5·7 „ „

Such slight differences cannot, as Professor Schweigger has observed, "tenir à la méthode,"—a conclusion which is also irresistibly forced upon us by the extraordinary changes of opinion which so many of our eminent *confrères* have displayed with reference to this operation. "During an entire year," says Landolt, "I operated upon my cataract patients without iridectomy. A master in ophthalmology then said to me, 'You are now enthusiastic over extraction without iridectomy'—(Landolt was nothing less than that); 'well, I predict,' the master continued, 'you will change your mind about it. It is a bad method, and I am all the more sure of it because, after having operated for a long time with iridectomy, I became the champion of its abolition and have again resumed, and this time to continue, the doing of the iridectomy.'"[7] Whereupon Professor Landolt, having abandoned the simple method, became prominent amongst those who oppose it; whilst the master in ophthalmology is to-day again one of the most persistent and passionate advocates of simple extraction. Such changes of opinion, such vacillations, such veering round first to one side, then to the other, evidently cannot be due to radical differences between the two operations, but must depend upon other or accidental circumstances, such as to the fact that, "despite manifold improvements, cataract extraction is still by no means an easy operation"; or upon a run of good or ill luck; or a startling case, such as a large prolapse occurring in an important patient; or even to a tendency to prefer our own peace of mind to the highest interests of our patients.[8]

It is alleged that the sole advantage of iridectomy is that it prevents large prolapse of the iris, which I think is the truth and the whole truth. It is also asserted that the sole advantage of simple extraction is that it preserves the natural appearance of the eye, which is the truth, no doubt, but not by any means the whole truth. The picture which is drawn of tottering old ladies and gentlemen who have lost all interest in life, who care nothing for personal appearance, who so long as they do see are not particular about seeing well, and whose eyes are so effectually concealed by the thick glasses which they are obliged to wear that it is impossible to say whether they have been iridectomised or not, is fairly applicable to only a limited number of cataract subjects. Many of my patients are precluded by their occupations from wearing glasses: some of those whom you will see here to-night are colliers who continue to earn high wages by rough, hard work in the pit; others are labouring men and market women or menders of lace, bookkeepers and others who depend upon good sight for a living after extraction. All of these are unquestionably much benefited by that substitute for accommodation which, as we know from aphakial animals, is afforded by a central and movable pupil, as also by that simulacrum of the lens itself which is supplied by a transparent capsule more or less filled with fluid. Of course, the iris must be excised, either by my method, which does not sacrifice the pupil, or in mass, if there is tension, or a certainty, or something like it, of coarse prolapse, or any other sufficient reason why it should be done; but I must say, after having operated upon thousands of patients, that I have come to regard iridectomy as something more than superfluous in ordinary cases of cataract extraction, an opinion which is evidently shared by such eminent authorities as Wecker, Galezowski, Knapp, Schweigger, Gayet, Teale, Power and others, who are even now teaching their pupils "to seek the best possible"—to practise "the art which conceals art"—and, whilst making restoration of sight a paramount object, to secure for the majority of their patients that success without restriction, that perfection of result, which is only to be attained by an operation which sacrifices nothing, which preserves the natural pupil, and in effect largely compensates for the loss of the lens.

[4] "At the time when I operated on all kinds of cataract without iridectomy I believed at first that prolapse of the iris could be prevented by making a corneal section like Liebreich's. This was an error from which I promptly recovered, thereafter carrying the entire wound to the vicinity of the edge of the cornea. Prolapse and impaction of the iris are less frequent when this is done, without counting other advantages of the peripheral corneal incision."—Landolt, Cataract Operation in Our Day, p. 158.

[5] "It is only from the time when I adopted the habit of washing out antiseptically with a boric acid solution (3 to 4 per cent.) the anterior chamber that I have seen all suppuration of the iris and cornea vanish."—PANAS.

[6] Archives d'Ophthalmologie, November 1891, p. 561.

[7] Ophthalmic Record, November, 1892, p. 136.

[8] "The operation of iridectomy lets the operator sleep quietly and see that it is right to do the iridectomy."—Hansen Grut: *Annales d'Oculistique*, 1892, p. 77.

THE MORTALITY OF CHILDBIRTH.

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Current views on death-rate of childbirth.—The mortality of childbirth has of recent years been considered mainly from a hospital standpoint. The monographs of Sir W. O. Priestley[1] and Dr. Cullingworth[2] are instances in point. They have shown how in lying-in hospitals (where but a few years ago the mortality was so grave that demands were actually made for their extinction) it has been possible both in this country and abroad to reduce the death-rate to a point even less than that of obstetric practice generally. In these institutions puerperal fever now and again caused frightful havoc and always remained a fertile source both of illness and of death. To a diminished mortality under this head the greater part of the improvement is due. It is clearly traceable in the main to the adoption of antiseptic measures. But even where the principles of asepsis and antisepsis were from the outset recognised the full benefit of the recognition of these principles was not immediately felt, for the means adopted were at first somewhat crude and often little calculated to meet the exigencies of the case; however, as the outcome of increased experience in the use of antiseptics in obstetric practice still further improvement has since been effected;[3] for, in addition to a diminishing mortality, septic processes have now been all but completely eliminated from the category of illness in childbed. This, I repeat, is a matter of hospital experience; yet, as the result apparently of such observations, an impression has gained currency that the improvement has been widespread and has affected the childbirth mortality in the country at large. Recently a medical colleague, in his capacity of physician to an assurance society, appealed to me for facts bearing on the decreased mortality of childbirth, particularly as regarded puerperal fever. The society, in view of the supposed declension in puerperal mortality during the last ten or twenty years, had in contemplation a remission of the extra 1 per cent. which had hitherto been levied on women expecting the first confinement. For this purpose the statistics of lying-in hospitals and maternities were obviously ill-adapted; but, having at hand more extended data, I was able to give the desired information almost immediately. I must confess that the result came upon me at first somewhat as a surprise. Further, several physicians, when asked for their views on the matter, though unable to afford direct information on the point, one and all expressed a decided opinion affirming a widespread decline in the mortality from puerperal fever during the last decade at least. I have also heard the same remark received without question in a medical debate. The object of this communication is to correct this erroneous impression and to arrive at the true facts of the case. The assurance offices, as the result of independent research amongst their own statistics, have arrived at identically the same conclusion as that to which my own observations point.

Statistical data.—Of illness unattended with a fatal result no statistical record on a sufficiently extensive basis is at the present moment available and though by the Infectious Diseases (Notification) Act of 1889 means have lately been provided for the collection of evidence with regard to puerperal fever, yet the doubts which on all hands exist as to what should and what should not be included in that category, particularly in the lighter forms of the disease where the illness does not terminate fatally, necessarily serve to render any such return less complete than could be desired. But of mortality ample evidence exists in the reports of the Registrar-General. The statistics for a lengthened term of years, both for England and Wales and for London, are accessible and deal with sufficiently large numbers to eliminate the disturbing element of chance. These have consequently been adopted as the basis upon which the present investigation is founded. In the mortality returns the deaths from childbirth are given under the respective heads of "Puerperal Fever or Metria" and "Accidents of Childbirth." Under the latter heading are included fatal cases of accidental, unavoidable and post-partum hæmorrhage, eclampsia and so forth, which are incidental to labour and to the lying-in period; but deaths taking place during childbed from pre-existing disease, such as phthisis and cancer or from such purely fortuitous circum-

TABLE I.

Death-rate of Childbirth in England and Wales from Puerperal Fever or Metria, from Accidents of Childbirth, and from all Causes, estimated for 10,000 children born alive.

Year.	Births (excluding stillborn children).	Deaths in childbed from			Childbirth death-rate from		
		Puerperal fever or metria.	Accidents of childbirth.	All causes.	Puerperal fever or metria.	Accidents of childbirth.	All causes.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1847	539,965	784	2442	3226	14·5	45·2	59·7
1848	563,059	1365	2080	3445	24·2	36·9	61·2
1849	578,159	1165	2174	3339	20·1	37·6	57·7
1850	593,422	1113	2·39	3252	18·7	36·0	54·8
1851	615,865	1009	2281	3290	16·3	36·8	53·4
1852	624,012	972	2275	3247	15·5	36·4	52·0
1853	612,391	795	2268	3063	12·9	37·0	50·0
1854	634,405	954	2055	3009	15·0	32·3	47·4
1855	635,043	1079	1900	2979	16·9	29·9	46·9
1856	657,453	1067	1821	2888	16·2	27·6	43·9
1857	663,071	836	1951	2787	12·5	29·4	42·0
1858	655,481	1068	2063	3131	16·2	31·4	47·7
1859	689,881	1238	2258	3496	17·9	32·7	50·6
1860	684,048	987	2186	3173	14·4	31·9	46·3
1861	696,406	886	2109	2995	12·7	30·2	43·0
1862	712,684	940	2137	3·77	13·1	29·9	43·0
1863	727,417	1155	2433	3588	15·8	33·5	49·3
1864	740,275	1494	2532	4016	20·0	34·2	54·2
1865	748,069	1333	2490	3823	17·9	33·2	51·1
1866	753,870	1197	2485	3682	15·8	32·9	48·8
1867	768,349	1066	2346	3412	13·8	30·5	44·4
1868	786,858	1196	2307	3503	15·1	29·3	44·5
1869	773,381	1181	2102	3283	15·2	27·1	42·4
1870	792,787	1492	2383	3875	18·8	30·0	48·9
1871	797,428	1464	2471	3935	18·3	30·9	49·3
1872	825,907	1400	2403	3803	16·9	29·0	45·9
1873	829,778	1740	2375	4·15	20·9	28·6	49·5
1874	854,956	3108	2819	5927	36·3	32·9	69·3
1875	850,607	2504	2560	5064	29·4	30·2	59·6
1876	887,968	1746	2396	4142	19·6	26·9	46·6
1877	888,200	1444	1999	3449	16·2	22·5	38·8
1878	891,288	1415	1885	3300	15·8	21·1	37·0
1879	880,389	1464	1876	3340	16·6	21·3	37·9
1880	881,643	1659	1833	3·92	19·0	20·7	39·8
1881	883,642	2287	1940	4227	25·8	21·9	47·8
1882	889,014	2564	1960	4524	28·8	22·0	50·8
18·3	890,722	2616	1892	47·8	29·3	21·2	50·6
1884	906,750	2468	1879	4347	27·2	20·7	47·9
1885	894,270	2420	2029	4449	27·0	22·6	49·7
1886	903,760	2078	1799	3877	22·9	19·9	42·8
1887	886,331	2450	1710	4160	27·6	19·2	46·9
1888	879,868	2386	1774	4160	27·1	20·1	47·2
1889	885 944	1852	1733	3585	20·9	19·5	40·4
1890	869,937	1956	2290	4255	22·4	26·4	48·9
1891	914,157	1973	2814	4787	21·5	30·6	52·2
1892	—	—	—	—	—	—	—

Mean for whole period (1847 to 1891 inclusive) 19·5 + 29·0 = 48·5.

[1] On the Improved Hygienic Condition of Maternity Hospitals: Transactions of the Seventh International Congress of Hygiene and Demography, vol. i., London, 1891.

[2] Puerperal Fever a Preventable Disease, vol. ii., 1892.

[3] I have related in detail how this has been effected in the General Lying-in Hospital. See Fever in Childbed—Part I. General Hygiene and Antisepsis—in Obstetrical Society's Transactions, vol. xxxii., 1890.

TABLE II.

Death-rate of Childbirth in London from Puerperal Fever or Metria, from Accidents of Childbirth, and from all Causes, estimated for 10,000 Children born alive.

Year.	Births (excluding stillborn children).	Deaths in childbed from			Childbirth death-rate from		
		Puerperal fever or metria.	Accidents of childbirth.	All causes.	Puerperal fever or metria.	Accidents of childbirth.	All causes.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1847	69,331	—*	—*	509	—*	—*	74·4
1848	71,265	311	259	571	45·0	35·9	80·1
1849	72,462	258	244	502	35·5	33·5	69·0
1850	74,317	199	244	443	26·7	32·3	59·6
1851	77,871	180	231	411	23·1	29·6	52·7
1852	80,484	188	262	450	23·3	32·5	55·9
1853	83,878	140	252	392	16·6	30·0	46·7
1854	84,684	172	263	445	20·3	31·0	51·3
1855	84,944	199	272	471	23·4	32·0	55·4
1856	86,833	170	246	416	19·5	28·3	47·9
1857	91,043	136	227	363	14·9	24·9	39·8
1858	88,620	165	265	430	18·6	29·9	48·5
1859	92,556	207	257	464	22·3	27·7	50·1
1860	92,825	145	254	399	15·6	27·3	42·9
1861	96,389	162	234	396	16·8	24·2	41·0
1862	97,418	190	241	431	19·5	24·7	44·2
1863	103,897	220	339	559	21·1	32·6	53·8
1864	102,187	261	315	576	25·5	30·8	56·3
1865	106,722	182	300	482	17·0	28·1	45·1
1866	107,992	153	316	469	14·1	29·2	43·4
1867	112,264	157	297	454	13·9	26·4	40·4
1868	115,744	219	275	494	18·9	24·7	42·6
1869	111,930	198	259	457	17·6	23·1	40·8
1870	113,499	217	306	5 3	19·0	26·9	46·0
1871	112,535	182	318	500	16·1	28·1	44·3
1872	117,240	251	2 3	504	21·4	21·5	43·0
1873	121,100	306	326	632	25·2	26·9	52·1
1874	121,3 4	456	335	791	37·5	27·5	65·0
1875	123,266	304	324	628	24·6	26·2	50·9
1876	127,444	255	354	609	20·0	27·7	47·7
1877	128,092	217	280	506	16·8	21·7	39·5
1878	129,765	196	255	450	15·0	19·6	34·6
1879	131,542	194	245	439	14·7	18·6	33·3
1880	137,310	268	253	521	20·2	18·8	39·0
1881	132,904	332	228	560	24·9	17·1	42·1
1882	133,309	287	225	512	21·5	16·8	38·4
1883	134,503	307	180	487	22·8	13·3	36·2
1884	135,651	327	193	520	24·1	14·2	38·4
1885	132,952	323	182	505	24·3	13·6	37·9
1886	134,339	279	200	479	20·7	14·8	35·6
1887	133 359	328	163	491	24·5	12·2	36·8
1888	131,761	276	169	444	20·8	12·8	33·6
1889	132,233	222	166	388	16·7	12·5	29·3
1890	128,161	237	212	449	18·4	16·5	34·9
1891	134,484	222	286	508	16·5	21·2	37·7
1892	131,535	313	304	617	23·7	23·1	46·8

Mean for whole period (1848 to 1892 inclusive) 21·3 + 24·2 = 45·5.

* No separate return.

TABLE III.

Death-rate of Childbirth in the Provinces from Puerperal Fever or Metria, from Accidents of Childbirth and from all Causes, estimated for 10,000 children born alive.

Year.	Births (excluding stillborn children).	Deaths in childbed from			Childbirth death-rate from		
		Puerperal fever or metria.	Accidents of childbirth.	All causes.	Puerperal fever or metria.	Accidents of childbirth.	All causes.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1847	471,634	—*	—*	2717	—*	—*	57·6
1848	491,794	1044	1830	2874	21 2	37·2	58 4
1849	505,497	907	1930	2837	17·9	38·1	56·1
1850	519,105	914	1895	2809	17·6	36·5	54·1
1851	537,994	829	2050	2879	15 4	38·1	53 5
1852	533,528	784	2013	2797	14·7	37·7	52·4
1853	528,513	655	2 16	2671	12·3	28·1	50·5
1854	549,721	782	1792	1574	14·2	32·5	46·8
1855	550,198	880	1625	2508	15·9	29·5	45·5
1856	570,602	807	1575	2472	15·7	27·6	42·3
1857	572,023	700	1724	2424	12·2	30·1	42·3
1858	566 801	903	1798	2701	15·9	31·7	47·6
1859	597,325	1031	2001	3032	17·2	33·4	50·7
1860	581,223	842	1932	2774	14·4	33·2	47·7
1861	630,017	754	1875	2590	12·0	31·2	43·3
1862	615,266	750	1896	2646	12·1	30·8	43·0
1863	623,520	935	2094	3 2 9	14·9	33·5	48·5
1864	638,068	1223	2217	3440	19·1	34·7	53·9
1865	641,347	1151	2190	3341	17·9	34·1	52·0
1866	645,878	1044	2160	3213	16·1	33·5	49·7
1867	656,685	909	2049	2958	13·8	31·2	45·0
1868	671,114	977	2032	3009	14·5	30·2	44·8
1869	661,451	983	1843	2826	14·8	27·8	42·7
1870	679,288	1275	2077	3352	18·7	30·5	49·3
1871	684 893	1282	2153	3435	18·7	31·4	50·1
1872	708,707	1149	2150	3299	16·2	30·3	46 5
1873	708,678	1434	2049	3483	20·2	28·9	49·1
1874	733,562	2652	2484	5 36	36 1	33 8	70·0
1875	727,341	2200	2236	4436	30·2	30·7	60·9
1876	760,524	1491	2042	3533	19·6	26·8	46·4
1877	760,108	1227	1710	2937	16·1	22·4	38·6
1878	762 673	1220	1630	2850	16·0	21·3	37·4
1879	748,847	1270	1631	2901	16·9	21·7	38·7
1880	749,338	1391	1580	2971	18·5	21·1	39·7
1881	750,738	1055	1712	3867	26·0	22·8	48·8
1882	755,705	2277	1735	4012	30·1	22·9	53·0
1883	776,219	23 9	1712	4021	30·5	22·6	53·1
1884	771,699	2141	1686	7827	27·7	21·8	49·6
1885	761,318	2097	1847	3944	27·5	24·2	51·8
1886	769,421	1799	1599	3398	23·3	20·7	44·1
1887	742 972	2122	1547	1669	28·5	20·8	49·3
1888	748,107	2111	1605	3716	28·2	21·4	49·6
1889	713,711	1630	1567	3197	21·6	20·7	42·2
1890	741,776	1719	1087	3806	23·1	28·1	51·3
1891	770,673	1751	2528	4279	22·4	32·4	54·8
1892	—	—	—	—	—	—	—

Mean for whole period (1848 to 1891 inclusive), 19·4 + 29·3 = 48·7.

* No separate return.

stances as fatal attacks of acute specific disease, rheumatism, accident, poison, murder, or suicide during the lying-in period, are not taken into account. The two categories combined, therefore, may be correctly stated to include the deaths *from* childbirth, but not quite all the deaths *in* childbed. It may be objected that owing to faulty registration and deficient death-certification the returns are not reliable. That this objection may have some weight in estimating the amount of mortality, especially as regards puerperal fever (in which for obvious reasons the death returns are avowedly defective), I fully admit; but, as this communication seeks to compare the mortality of one year with that of another and of one part of the kingdom with that of another, and as these sources of error apply to each, the result cannot be materially affected. In estimating the true amount of mortality, however, a mental correction should certainly be made for this obvious source of error. By adopting the plan of estimating the death-rate in relation to the number of

registered births a fair estimate can be obtained of the mortality incidental to parturition and puerpery. For this purpose the birth returns also (as given in the Registrar-General's reports both for England and Wales and for London) have been laid under contribution. In these returns stillbirths are not included; but, as this omission is, to some extent, compensated by multiple gestations, the figures afford a fairly correct index of the number of confinements.

Explanation of tables and charts.—In the following tables the above-mentioned data are set forth in separate columns: (1) Births; (2) deaths from puerperal fever or metria; (3) from accidents of childbirth; (4) from all causes, and then come the death-rates (estimated for 10,000 confinements); (5) from puerperal fever or metria; (6) from accidents of childbirth; and (7) from all causes. From the death-rate the percentage mortality may be readily deduced by carrying the decimal point two places to the left. The first table refers to England and Wales, the second to London and the third to the provinces. The data for the last have been obtained by subtracting the London returns from those of England and Wales. The results given in each of the tables are represented graphically by corresponding charts. It may be noted that this investigation covers a period of forty-six years, from 1847 to the present time. Until the year 1848 no distinction was drawn in the mortality record for London between puerperal fever or metria and accidents of childbirth, and the figures of last year for England and Wales will not be available until the end of this. Consequently blank spaces appear at the beginning of Charts 2 and 3 and at the end of Charts 1 and 3. With these exceptions, the mortality for each year has been presented by placing upon the base line the death-rate from puerperal fever or metria and, above this, the death-rate from accidents of childbirth. The distance from the base line to the upper limit of the diagram accordingly measures the death-rate of childbirth from all causes. The total mortality and the mortality from puerperal fever may be read on the scale in relation to 10,000 confinements. The two broken lines running across each chart indicate the average mortality for the whole term of years (the thick broken line from all causes, the thin broken line from puerperal fever or metria alone). The distance of the corresponding curve above or below these lines denotes the mortality in relation to the mean. In the following table is given the average mortality for the whole term, and by way of comparison the mean mortality for a period of twelve or thirteen years at the commencement and end of that term.

Average Mortality per 10,000 Confinements.

——	From puerperal fever or metria.	From accidents of childbirth.	From all causes.
For the whole term.			
In England and Wales ..	19·5	29·0	48·5
In London	21·3	24·2	45·5
In the Provinces	19·4	29·3	48·7
Before 1860.			
In England and Wales ..	16·7	34·6	51·3
In London	24·1	30·6	54·7
In the Provinces	15·8	34·2	50·0
Since 1880.*			
In England and Wales ..	24·9	22·1	47·0
In London	21·5	15·9	37·4
In the Provinces	25·6	23·3	48·9

* During this period, where doubt existed as to the direct association of childbirth with the cause of death, letters of inquiry have been addressed from the Registrar-General's office. As the result of these inquiries it appears that an addition, roughly estimated at one-twelfth of the return, has been made. In instituting a comparison between this and the previous period this addition should be borne in mind.

Conclusions.—I shall first consider the evidence afforded by individual charts and subsequently compare one with another.

1. From Chart 1 it is concluded, as regards England and Wales, (*a*) that the total death-rate from childbirth has not appreciably diminished (the total mortality has not diminished by as much as one-tenth and is now, as formerly, very nearly 48·5 per 10,000 births—viz., 47·0—i.e., 0·47 per cent.); (*b*) that the death-rate from puerperal fever or metria has considerably increased (the mortality under this head has risen from 16 per 10,000 births to nearly 25—i.e., to 0·25 per cent.—and instead of accounting for barely one-third, as formerly, is now accountable for nearly half the total mortality); (*c*) that the death-rate from accidents of childbirth has appreciably diminished (the mortality under this head is now less than two-thirds of what it was formerly).

2. From Chart 2 it is concluded, as regards London, (*a*) that the total death-rate from childbirth has markedly diminished (the total mortality has diminished by one-third, having declined from 55 per 10,000 births to 37—i.e., to 0·37 per cent.; (*b*) that the death-rate from puerperal fever or metria has scarcely diminished at all (the mortality under this head has declined from 24 per 10,000 births to 21—i.e., to 0·21 per cent.—it has not diminished by as much as one-eighth and even now accounts for more than half the total mortality); (*c*) that the death-rate from accidents of childbirth has greatly diminished (the mortality under this head is now half of what it was formerly).

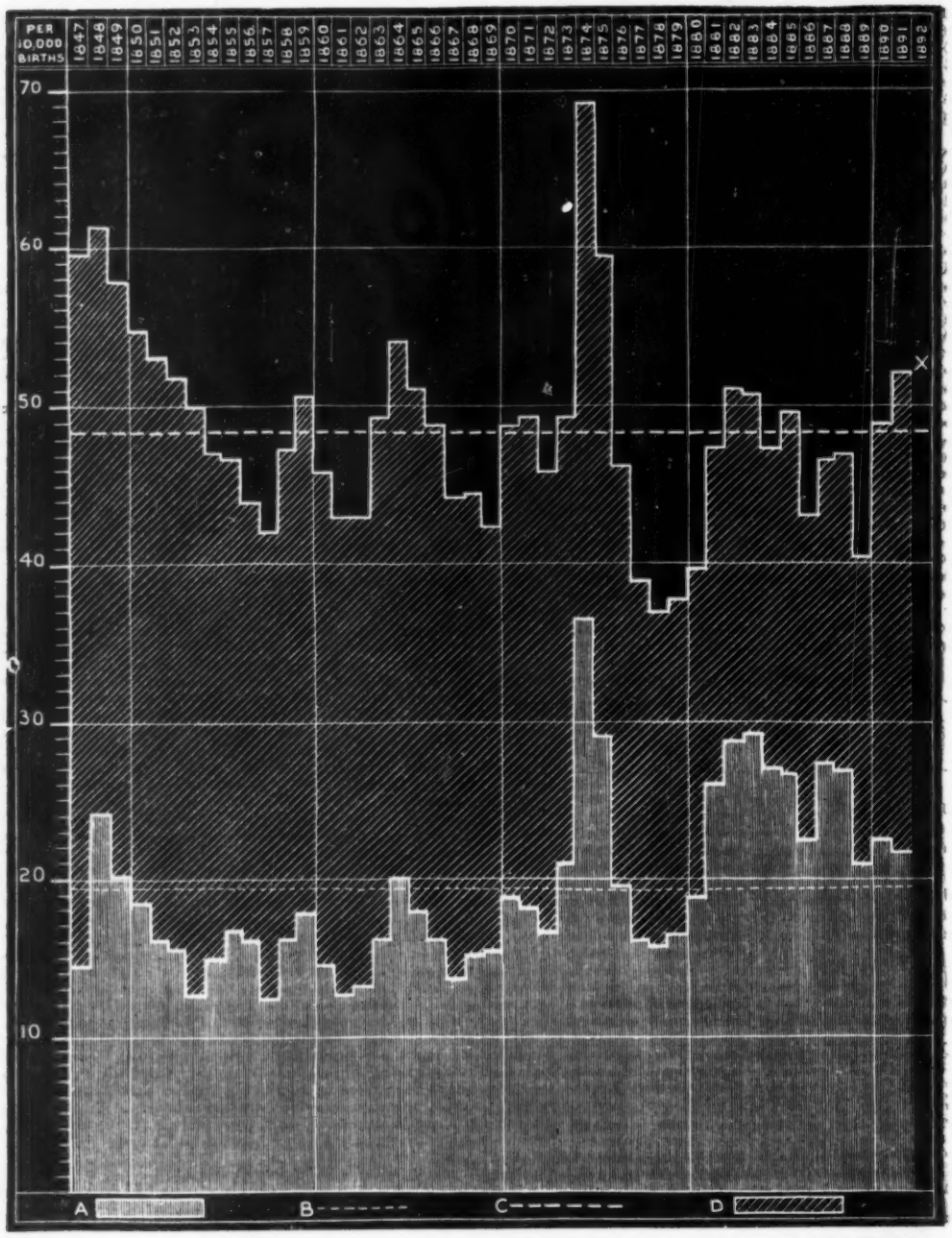
3. From Chart 3 it is concluded, as regards the provinces, (*a*) that the total death-rate from childbirth has not appreciably diminished (the total mortality has barely diminished by more than one-hundredth part; formerly 50, it is now 49 per 10,000 births—i.e., 0·49 per cent.); (*b*) that the death-rate from puerperal fever or metria has considerably increased (the mortality under this head has risen from 16 per 10,000 births to over 25—i.e., to 0·25 per cent.; instead of accounting for barely one-third, as formerly, it is now accountable for more than half the total mortality); (*c*) that the death-rate from accidents of childbirth has appreciably diminished (the mortality under this head is little more than two-thirds of what it was formerly).

4. On comparing Charts 2 and 3 it will be observed: (*a*) that, whilst the average mortality for the last forty-five years from childbirth for London very nearly coincides with that for the provinces (being 45·5 and 48·7 per 10,000 births respectively), the death-rate has shown a marked decline in one case, but has remained all but stationary in the other; so that a mortality which was for London 0·047 per cent. in excess of that of the provinces is now 0·115 per cent. lower, a total difference in the death-rate of more than 1 per 1000 confinements between the two; (*b*) that, whilst the average mortality for the last forty-five years from puerperal fever or metria for London also very nearly coincides with that for the provinces (being 21·3 and 19·4 per 10,000 births respectively), the death-rate from this cause has shown but slight tendency to decline in the one case and has appreciably increased in the other, the increase amounting to 10 per 10,000 births—i.e., 0·1 per cent.; (*c*) that, whilst the average mortality for the last forty-five years from accidents of childbirth for London has been slightly less than that for the provinces (being 24·2 and 29·3 per 10,000 births respectively), the death-rate from this cause has shown a marked decline in both instances, the decrease under this head amounting in the case of London to one-half and in that of the provinces to one-third of the former mortality.

It may be noted that the death-rate from puerperal fever shows an unwonted exacerbation in London alone in the years 1848–49, and again in the year 1874 both in London and the provinces; and, putting these aside, minor fluctuations in the curve have taken place with corresponding regularity in both charts, indicative of some widespread influence, into a consideration of which it is not my present intention to enter. But it may be observed that the irregularities in the upper curve in each chart depend in the main upon fluctuations in the lower, of which they form as a rule an exaggerated reflection. From this it appears that, putting aside the grosser alterations in the death-rate of childbirth above described, the main element of variation from year to year is attributable to puerperal fever or metria; and, further, as many of the cases returned under the head of "accidents of childbirth" are liable to be complicated by, and to succumb ultimately to, septic mischief, it follows that in those years where the mortality from puerperal fever is greatest this liability is increased, and *vice versâ*. Hence arises the exaggeration of the upper curve to which attention has been directed.

Summary.—It appears that the death-rate from childbirth has not been appreciably diminished so far as England and Wales are concerned and that as regards puerperal fever an actual increase has taken place in the provinces. Much has already been done towards the reduction of mortality from accidents of childbirth, especially in London, where immediate attendance is always available and further aid can be readily secured; but such results as have

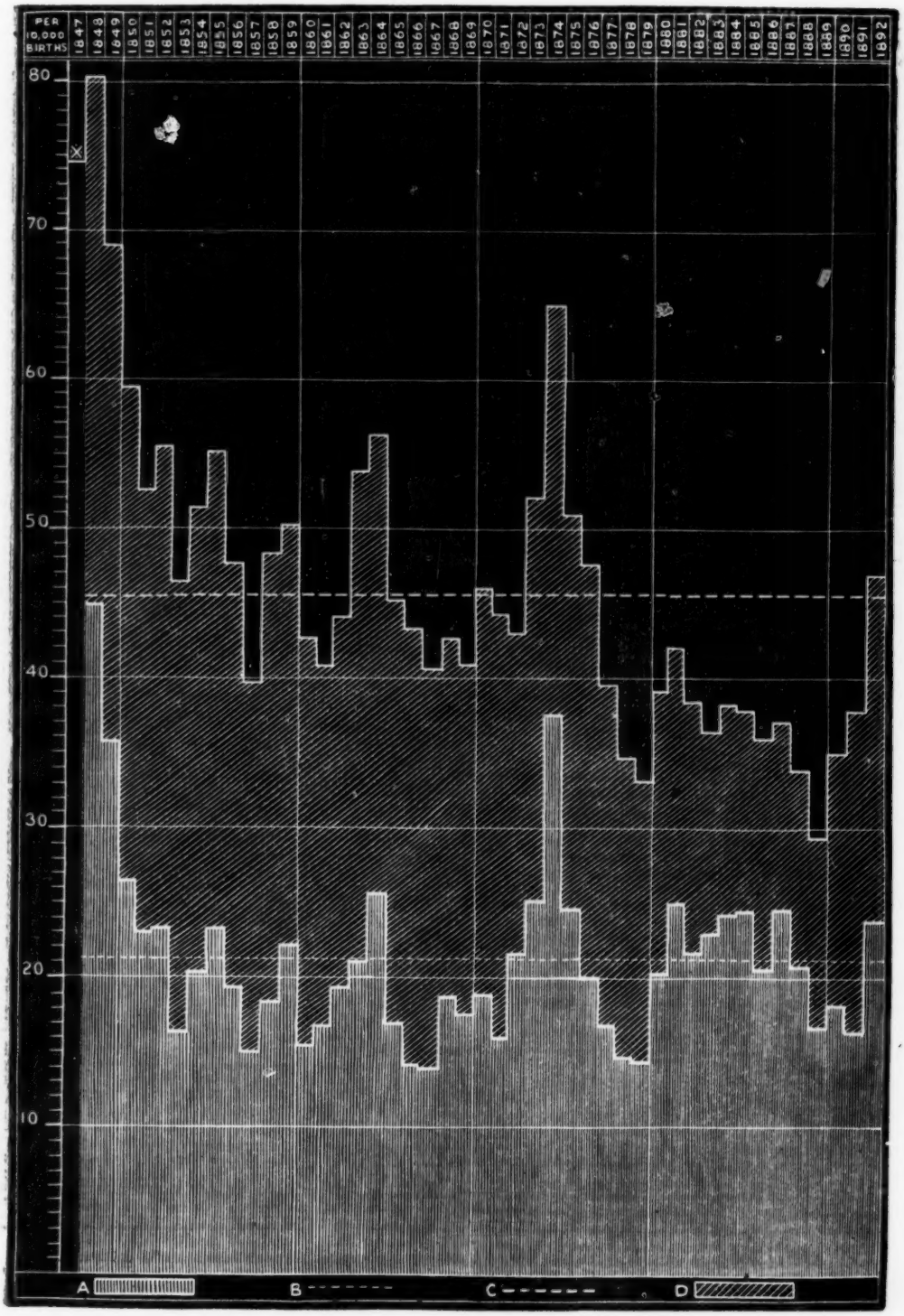
CHART I.—DEATH-RATE OF CHILDBIRTH IN ENGLAND AND WALES.



A, Puerperal fever or metria. B, The mean mortality from puerperal fever. C, ,, ,, ,, all causes. D, Accidents of childbirth.

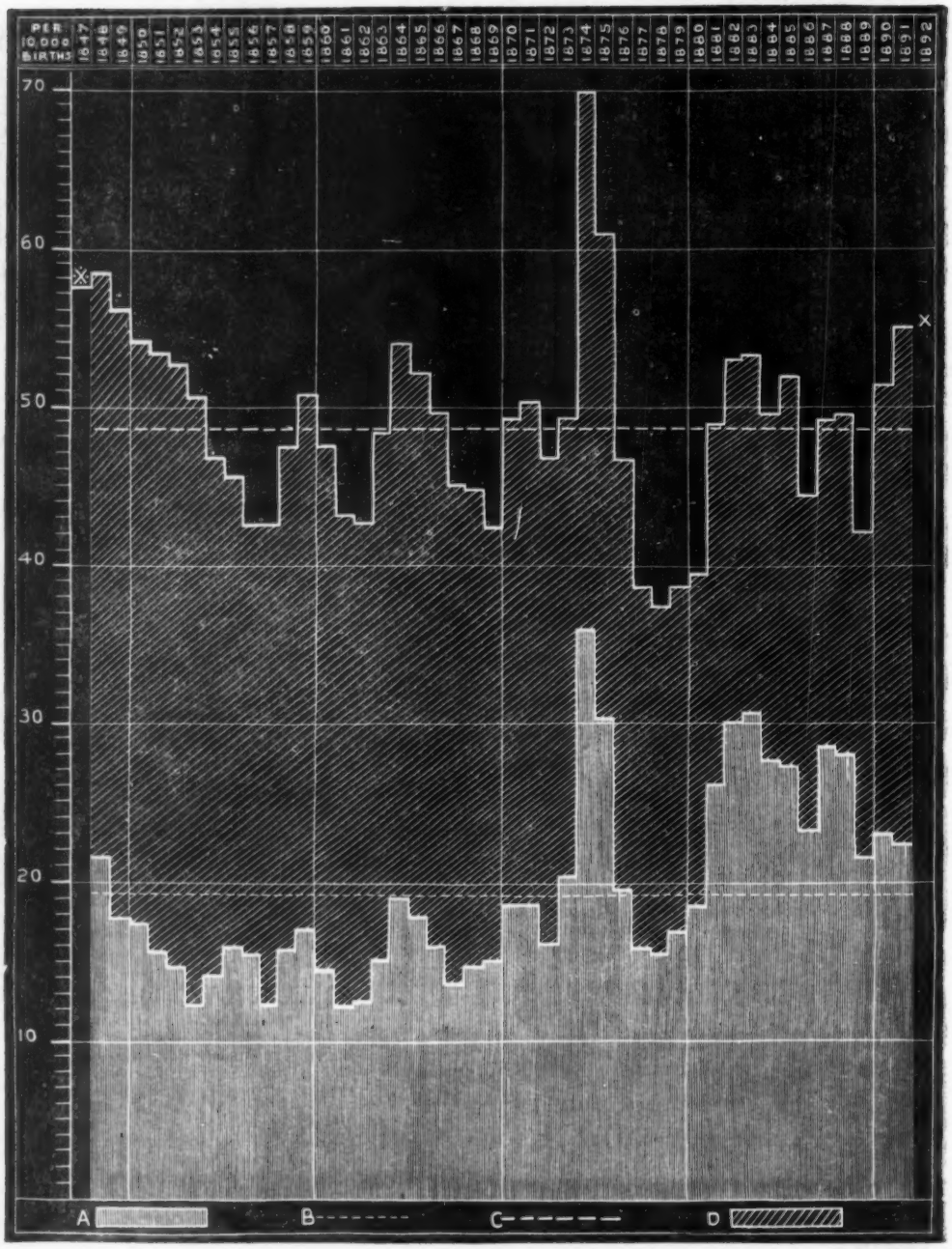
x 1892: no returns.

CHART II.—DEATH-RATE OF CHILDBIRTH IN LONDON.



A, Puerperal fever or metria. B, The mean mortality from puerperal fever. D, Accidents of childbirth.
C, " " " all causes. — E
* 1847: no returns.

CHART III.—DEATH-RATE OF CHILDBIRTH IN THE PROVINCES.



A, Puerperal fever or metria. B, The mean mortality from puerperal fever. D, Accidents of childbirth.
C, ,, ,, ,, all causes.
* ×1847 and 1892 ‖ no returns.

been obtained in lying-in hospitals and maternities by the adoption of antiseptic measures in the elimination of septic processes are not as yet apparent in obstetric practice generally throughout the country. The natural inference is that no approach towards the general adoption of antiseptic measures has yet been made. That this state of things exists is, on consideration, not a matter for surprise. For but a small proportion of obstetric practice is at present in the hands of those who have been educated in the use of antiseptics, and even of those who make a practice of following out aseptic and antiseptic principles but few do so in a really efficient manner. The reduction of puerperal mortality on any considerable scale is as yet a dream of the future, and it must take years before that dream will be fully realised. Already encouraging signs are apparent, in so far that the rise in the death-rate from puerperal fever which has taken place during the last decade in the provinces has not attained to corresponding proportions in London. In London and the larger towns, where antiseptic measures are naturally more freely adopted, improvement may first be looked for, and that the provinces will shortly follow suit may be confidently anticipated.

Weymouth-street, W.

SOME CASES OF CEREBRAL DISEASE.

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THE following cases possess, I think, sufficient interest, from the difficulties of diagnosis or the peculiarities of symptoms, to be worth recording. Cases 1 and 2, 4 and 5, and 6 and 7 form natural clinical groups with diverse pathological processes.

CASE 1. *Subacute hydrocephalus.*—A young married man aged twenty-three, without history of syphilis or tubercle, was suddenly, whilst at work, seized with pains in the head and back and general soreness. He went home and during the next week was half delirious and vomited frequently. Three weeks later he was admitted into hospital, having in the interval lost much flesh, and remained very weak and apathetic. On admission he was irritable, stupid, deficient in memory and occasionally exhibiting hallucinations. He complained of pain in the head and soreness all over the trunk and limbs. He was much emaciated, had a harsh dry skin and a temperature of 101·8°. Though there was general muscular wasting there was no actual paralysis, tremors or spasm, but he was only just strong enough to walk. There was no loss of general sensation, but slight general hyperæsthesia. The special senses were normal, except that he could not hear a watch tick further off than one inch. The tympanitic membranes were normal. His speech was somewhat drawling, the pupils were equal and reacted normally, the knee-jerks were normal, there was no ankle-clonus and the plantar reflexes were slight. There was slight double optic neuritis. There were no signs of visceral disease. The patient lived for a month, presenting a hectic temperature (97° to 103°), whilst headache, vomiting and mental obscuration gradually grew worse. The only new phenomenon was the appearance of nystagmus a week after admission. He finally passed into stupor, became cyanosed, collapsed and died.

Necropsy.—There were no changes in the thoracic and abdominal viscera, except slight bronchitis. In the brain the convolutions were flattened; there were no lymph or tubercles anywhere. The lateral ventricles were distended with clear fluid to twice their normal size. The cortex was thinned. The foramina of Monro were much enlarged, as was also the fourth ventricle. On the velum interpositum there was a patch of firm fibrous thickening the size of a threepenny piece, apparently obstructing the veins of Galen. There was no clot in the veins. There was no tumour, nor were there any signs of inflammation of the choroid plexuses or of the brain substance, and there was no obvious thickening of the roof of the fourth ventricle. The spinal cord appeared soft in its upper half, but showed no marked change under the microscope.

An exact diagnosis in this case was not possible, and even the pathology remains obscure. The fibrous patch may have been the remains of a gummatous inflammation, but in the absence of further proof I do not consider the diagnosis of syphilis tenable. Nor, after careful search, could any trace of tuberculous inflammation be found. It seems probable that the thickening of the velum interpositum may have antedated the acute onset of the disease, which might have been brought on by a new insignificant obstruction to the orifices of the fourth ventricle. The continued fever in the absence of discoverable inflammation is noteworthy.

CASE 2. *Cerebral syphilis.*—This case is of interest from the resemblance in symptoms and difference in result to the last. A man aged thirty-seven had secondary syphilis a year previously, but took mercury for a few months only. Three months ago he married. He seems to have become drowsy and inattentive to business shortly before marriage, but whilst on the honeymoon he was attacked with headache, vomiting and rapidly progressing muscular weakness, with marked mental deterioration. After his return home he was often delirious. When I saw him (September, 1892) he closely resembled the previous case. He was greatly emaciated, pale, trembling, and with a hesitating, indistinct speech. There was marked mental dulness, and he was sometimes delirious and sometimes semi-comatose. He could neither read nor write, nor name objects correctly until told. He could just walk a few steps. There was no localised paralysis or spasm, and no anæsthesia or hyperæsthesia. The special senses, so far as they could be tested, did not seem markedly affected. There was double ankle-clonus. The sphincters were normal. There was no optic neuritis. The other systems were normal. The temperature curve, unfortunately, could not be obtained. The patient was given large doses of iodide of potassium and he improved steadily. A note taken in April, 1893, says: "He looks plump and healthy, can walk ten miles, do a little business and play a good game of draughts. He reads easily, but occasionally sees double. The handwriting is still a little jerky and there is slight tremor of the hands. No optic neuritis; knee-jerks normal; no ankle-clonus. For the last few weeks he has had some headache, which till then had been absent."

In this case the etiology seems clear, though the site and form of the cerebral lesion are uncertain. Endarteritis is less probable at this "late secondary" stage of the disease than in the tertiary stage, and Case 1 shows how a small gummatous deposit may, by inducing hydrocephalus, cause the symptoms exhibited. I incline to think that this is more probable than the diagnosis of a diffuse syphilitic meningitis or a large gummatous tumour.

CASE 3. *Right hemiplegia with complete right facial paralysis and loss of taste.*—A boy aged ten was admitted into hospital for loss of power over the right side, which had come on gradually during the previous six months. There was no history of syphilitic or tuberculous disease or of injury to the head. On admission he was found to be an intelligent, well-nourished boy, free from pain and sickness. Speech was rather indistinct, but there was no aphasia. The gait was somewhat ataxic, the feet were kept wide apart and there was a tendency on the part of the patient to fall forwards or to either side. The right arm and leg were very weak, though not completely paralysed. There was also slight weakness of the left leg. There was complete right facial paralysis, including the orbicularis oculi and corrugator supercilii. The paralysis was observed in both voluntary and emotional movements. The tongue deviated to the right, but showed no wasting. The palate was normal as well as the pupils. There was no ptosis, but there was slight internal strabismus in both eyes. The left eye could not move outwards beyond the middle line and the right eye only slightly further. There was slow nystagmus of the latter whilst looking forward. The sphincters were normal. Both knee-jerks were increased, there was ankle-clonus in the right leg; the tendon reflexes were increased in the right arm, but the plantar and cremasteric reflexes were absent. There was slight double optic neuritis. Sensation to touch and pain was everywhere normal, as were also smell and vision. He heard a watch tick four inches from the right ear and two inches from the left. The tympanic membranes appeared to be normal. There was complete loss of taste on the right side of the tongue, not only on the anterior two-thirds but on the posterior third. Tactile sensibility on the tongue and other areas of the fifth nerve was quite intact. The patient lived for ten weeks after admission. After three weeks he began to have headache and vomiting, which recurred at intervals until the end. The weakness and incoördination of the legs increased, so that after a month he could not walk and the ankle-clonus became double. The condition of the arms and facial muscles remained unchanged, but shortly before death it was thought that the right half of the tongue was slightly

wasted. The loss of taste persisted and a week before death tactile sensibility appeared to be very slightly dulled on the right side of the tongue near the tip, but there was no general anæsthesia in the area of the fifth nerve. Hearing gradually diminished in the right ear till he could only hear through the bone. There were also one or two attacks of severe pain in this ear. The sixth nerves remained paralysed and he became unable voluntarily to move the right eye to the left, though it still converged readily on accommodation. The optic neuritis increased slightly. The temperature remained normal or subnormal throughout. Death occurred unexpectedly, respiration suddenly ceasing, whilst the pulse remained regular and was felt for five minutes after the last voluntary respiratory movement.

Necropsy.—Beyond slight flattening of the convolutions the cerebral hemispheres showed no change. When the brain was removed the whole of the pons appeared hypertrophied and the right half of its lower surface was covered by a lobulated mass, which spread into the right lobe of the cerebellum. Both sixth nerves and the right fourth nerve were flattened and translucent. The right seventh and eighth nerves were red, swollen and œdematous. No change was found in the fifth nerves. On section the substance of the pons appeared nearly normal to the naked eye, but there was a patch of hæmorrhagic softening in the adjacent part of the right hemisphere of the cerebellum. The microscope showed an infiltrating glioma, spreading through the whole breadth of the pons, but more bulky in its right half, where it grew up the middle peduncle into the cerebellum. The right chorda tympani was dissected out in the middle ear and on microscopical examination showed marked signs of degeneration.

Although in life the symptoms pointed to a cerebellar tumour, it was difficult to explain the association of right hemiplegia with paralysis of the upper part of the facial nerve and the loss of taste on the assumption of a single focus of disease. The only moderate deafness and the absence of much pain in the right ear contra-indicated the diagnosis of a malignant growth invading the right petrous bone and the canals of the seventh and eighth nerves, especially as it appeared that the main mass of the growth pressed upon the left pyramidal tract and ought therefore to be in the left half of the cerebellum. The necropsy showed the extraordinary combination of symptoms which may be produced by the infiltration of a glioma, or what is not inaptly termed the process of gliomatosis. Even when examining by the microscope one feels doubtful whether a given part is diseased or natural, and it appears from this case that the interference with function is not measured by the visible magnitude of the growth; for, though it was the left pyramidal tract whose function was most disturbed, it was in the right half of the pons that the tumour was most distinct and so large as to press on the right fourth nerves and to injure the seventh and eighth. Such a tumour creeps insidiously between the nerve elements, and may in one part, though its bulk be large, do them but little harm, whilst in another, though less voluminous, it damages the activity of both nerve fibres and cells. I did not, unfortunately, ascertain whether the redness and swelling of the seventh and eighth nerves were inflammatory or due to a spread of the glioma down them, as these nerves broke off in the hardening process. The latter view is the more probable, as the pressure of the tumour on other nerves (sixth and fourth) causes them to be pale and flat, instead of red and swollen. The degeneration of the chorda tympani (demonstrated in osmic acid and carmine preparations) is of interest in regard to the course of the fibres of taste. The case would at first sight seem to point to the chorda degeneration being due to disease of the root of the seventh nerve, but further consideration shows that this is not a necessary conclusion; for the swelling of the facial nerve extended so far into the bony canal that it undoubtedly pressed upon the chorda tympani fibres there, and it is therefore probable that their injury was due to this mechanical pressure and not to a degeneration descending from the seventh root. There was no evidence, either clinical or anatomical, of disease of the fifth nerve, and no change was visible to the naked eye in the roots of the glosso-pharyngeal or vagus nerves, which were behind the mass of the tumour. The loss of taste in this case was comparable to that occurring in neuritis of the seventh nerve in the Fallopian aqueduct, and the facts do not advance knowledge of the course of the taste fibres on the central side of the junction of the chorda tympani and the facial nerves. It may be noted that, so far as could be ascertained, taste was lost on the posterior third as well as on the anterior two-thirds of the tongue. This point is, however, difficult to test with accuracy in children. I may also mention here two surgical experiments in which, owing to the kindness of my colleague Mr. Chicken, I was able to further investigate the sense of taste. In the one case he had excised a portion of the right lingual nerve and in the other a piece of the right supra-maxillary, with Meckel's ganglion, both for severe neuralgia. In the former case the right lingual nerve was reached through the sigmoid notch of the inferior maxilla and a piece excised two years ago. The patient now has complete anæsthesia and loss of taste on the right side of the tongue in its anterior two-thirds. On the posterior third taste is normal and tactile sensibility is nearly as acute as on the other side of the tongue. Touch and taste are also normal on the palate. This observation supports the numerous experiments which have been held to show that the taste fibres in the chorda supply only the anterior two thirds of the tongue. In the second case Meckel's ganglion and a portion of the infra-orbital nerve were removed a year ago. For a time tactile sensation was diminished on the cheek, but it has now returned nearly to normal throughout the area of distribution of the supra-maxillary division of the fifth nerve, though the pain has not returned. At no time has taste been affected, as it would have been if the taste fibres reached the brain by way of the Vidian nerve and the second division of the fifth nerve.

CASE 4. *Tumour of corpus striatum.*—This was the case of a man aged forty-seven, an intelligent, temperate artisan, without history of syphilis or tubercle. Ten weeks before admission into hospital he began to be apathetic, drowsy and to have some headache. He is said also to have "talked queerly." During the last three weeks he had slept a great deal, had had some delusions, failure of memory and loss of interest in his surroundings. For a fortnight he had been unable to stand without support, and his wife thought that at first his left leg was weak. There had been considerable frontal headache and occasional vomiting. The day after admission he was very drowsy, only answering questions after vigorous rousing. The right hand was mostly kept on the forehead, which he said was painful. There was some general cephalic tenderness. He occasionally made clutches with either hand at space. He could not feed himself and could not stand alone, but there was no actual paralysis of the eyes, face or limbs and no anæsthesia. There was very slight rigidity of the left biceps, but no difference between the legs. The knee-jerks were diminished, there was no ankle-clonus and the plantar reflexes were present. He sometimes micturated in bed. The pupils were of medium size, equal and they reacted normally. There was slight double optic neuritis. The temperature was subnormal. There was no sign of disease of the thoracic or abdominal viscera. The urine was normal. The patient lived for ten days after admission, the drowsy condition gradually deepening into coma. The slight rigidity of the left arm was not again observed, and no other spasm or paresis developed. The temperature remained between 97° and 98° till the day of death, when it rose to 100·6°

Necropsy.—The frontal convolutions were flattened. There was slight excess of fluid in the lateral ventricles. The fornix was soft and almost diffluent. The right caudate nucleus was practically replaced by a growth but little larger than the left caudate nucleus. The tumour was in parts soft, gelatinous and reddish; in parts harder and white. On microscopical examination it proved to be a myxo-glio-sarcoma. The rest of the brain was normal. Except for some old pericardial adhesions there was no disease of the thoracic and abdominal organs.

The diagnosis of intra-cranial tumour was in this case easy, though its localisation was not. Beyond the slight weakness of the left leg, asserted to have been present by his wife before he came under my notice, and the doubtful temporary rigidity of the left arm, there was no indication of pressure on the internal capsule. In view of recent physiological research on the corpus striatum as a thermo-genetic centre, the absence of fever in this case is of interest, for the development of the symptoms was fairly rapid, so that signs of interference with the functions of this organ might have been expected. It would seem that only sudden lesions, such as those caused by the experimenter or such as hæmorrhage, are capable of producing an obvious effect on the regulation of heat. Probably a great part of the caudate nucleus had been slowly destroyed by the more chronic parts of the tumour, and the final rather rapid obliteration of the functions of the brain

was due to increase in the general intra-cranial pressure caused by extension of its sarcomatous portion.

CASE 5. *Lead encephalopathy.*—This case at first showed considerable clinical resemblance to the last, but in its cause and its result differed altogether. A young man aged seventeen, a carriage painter, was sent into hospital for cerebral tumour. His only previous illnesses were measles and "gastric fever." For three weeks before admission he suffered from headache, vomiting, dimness of vision, and pain in the abdomen. He repeatedly tried to work, but always had to give up after three days, becoming somewhat better again after a few days' rest. On inquiry it was found that the vomiting had been chiefly after food, that the bowels were confined, and that the pain in the abdomen was colicky in character. There was no history or sign of syphilis. Four days after admission the patient was found to be a well-nourished but rather anæmic lad. He was lethargic and complained of continuous frontal headache, which at times became intense. There was no ocular, facial or limb paralysis, and there was no spasm and no anæsthesia. The knee-jerks were normal, as were also the plantar reflexes. The pupils were normal. There was well-marked double optic neuritis and a large retinal hæmorrhage in the left eye. He had some nausea and occasional vomiting. The bowels were then open, and the urine was free from albumen or sugar, of sp. gr. 1012 to 1016, and amounting daily to about 30 oz. The pulse was soft and regular. The heart's apex was displaced two inches to the left, and a soft systolic murmur was audible over it. The tongue was moist, furred and tremulous. There was a slight blue line on the gums. For treatment the bowels were kept open and iodide and bromide of potassium were given, with an occasional dose of antipyrin for the exacerbations of headache. A fortnight later he was no better, and then tincture of digitalis was added to his mixture. Within a week from this marked improvement was observed and all his symptoms had left him five weeks after admission. The vision improved and the optic neuritis became perceptibly less, but some yellow striæ developed round each macula lutea. During the last ten days the daily output of urine increased to fifty ounces, but its specific gravity decreased to 1006 to 1010, and the urea was found to be but 1 per cent. Four times during his five weeks in hospital a trace of albumen appeared in the urine. The blue line on the gums diminished, but had not quite disappeared when he was discharged.

Lead encephalopathy, tolerably frequent amongst the white-lead workers of Newcastle, is very rare in Nottinghamshire, though the more usual phenomena of plumbism, such as colic and wrist-drop, are not uncommon. This patient had been engaged for two years in "fine painting," during which time he remained healthy, but for three months before admission had taken to coarse work, in which much red lead was used, and had suffered in consequence an acute intoxication. In him, as in the girl workers in white lead mentioned by Dr. Oliver, the sudden introduction of lead into the system caused serious cerebral disturbance without any of the peripheral nerve degeneration usual in chronic plumbism. There was evidence also in the low specific gravity of the urine and the occasional albuminuria that the kidneys were affected by the poison, and it is probable that the condition of granular kidney will supervene. The fact that improvement did not commence until the iodide of potassium was supplemented by digitalis may be associated with the fact that there was cardiac dilatation without hypertrophy, which, again, was probably connected with the subacute renal degeneration. It is also of interest in connexion with Dr. Dixon Mann's recent statement that iodides do not increase the elimination of lead from the system. In a case of wrist-drop from chronic plumbism recently under my care, which improved under iodides, I may mention that there was distinct anæsthesia in the area of distribution of the right radial and part of the right ulnar nerves, thus supporting the assertion of Dr. Judson Bury that the neuritic affection is not always confined to the motor nerves.

The two following cases illustrate the difficulties of diagnosis in typhoid fever.

CASE 6. *Tuberculous meningitis.*—A girl aged sixteen was sent into hospital for typhoid fever. She had been ailing for a fortnight, and was in bed for five days with fever, headache, and slight delirium, but no diarrhœa. On admission she was a well-nourished girl, lay on her back in a drowsy state, objected to being moved, and showed that her limbs were tender. The temperature was 101°, the pulse 104 and the respiration 20. The tongue was furred, the abdomen was full, there were no rose spots and the spleen could not be felt. A few râles were heard scattered over the lungs. The heart was normal. The right pupil was larger than the left, but both reacted normally. There was no paralysis of the external ocular muscles, face, tongue or limbs. The knee-jerks were normal. There was no optic neuritis. The hearing was normal, as was also the urine. The only symptoms pointing to brain disease rather than typhoid fever were the inequality of the pupils and the fact that the patient was rather more irritable than is usual in fever patients; but the former might have been natural to her, and the latter might be attributed to the nervousness of a girl above the usual class of hospital patients on first being brought amongst strangers. The normal condition of the knee-jerks and the absence of optic neuritis opposed the idea of cerebral mischief. For five days there was no change in the symptoms and the diagnosis remained doubtful; but on the sixth day the drowsiness increased, the knee-jerks disappeared and there was slight retraction of the head. The optic discs were still normal. On the seventh day after admission the patient passed into a state of stupor and on the eighth day, whilst still comatose, she died. The temperature had varied from 99° to 102°, but was subnormal just before death.

Necropsy.—There were tubercles in the pia mater all over the base of the brain, along the Sylvian fissures and on the cerebellar arteries. The cerebral ventricles were somewhat distended. Miliary tubercles studded the lungs and spleen, and there were a few in the kidneys and under the capsule of the liver. There was no inflammation or ulceration of the bowels.

A positive diagnosis during the first few days was, I think, impossible, although we inclined to the view of meningitis. It should be noted that the knee-jerks failed as a test, since they were retained till late in the disease, nor was headache ever a marked symptom. The absence of diarrhœa and the non-discovery of rose-spots and enlarged spleen are so common in typhoid fever—at least, in its early stages—that much importance could not be attached to these facts.

CASE 7. *Typhoid fever and cerebellar tumour.*—A young woman aged seventeen was sent into hospital with the diagnosis of typhoid fever from a house where four children had that disease. She had been in bed for sixteen days, suffering from headache, shiverings, cough and slight diarrhœa. Four days after admission (Feb. 13th) she presented the usual appearance of a typhoid fever patient at the end of the second week. She rambled somewhat in her talk; the abdomen was slightly distended, the spleen could be felt, but no rose-spots were visible. There were rhonchi in both lungs and a systolic bruit was heard at the heart's apex. The urine was normal. There was some stiffness of the neck. The pupils were equal, large and reacted sluggishly. There was no ptosis. There was some weakness of both external recti and of the left internal rectus. There was double optic neuritis. There was no facial, lingual or limb paralysis. The knee-jerks were absent. The sphincters were normal. There was no sign of ear disease. The temperature was 102·4°, the pulse 104, and the respiration 26. On Feb. 21st the patient seemed better. The mental condition was fairly good, there was no delirium and no headache. The ocular paresis was less marked. The temperature varied from 99° to 101°. There was no diarrhœa. On the 25th she said she was better. The knee jerks had returned, the plantar reflexes were exaggerated, and the optic neuritis had increased. Temperature, 99° to 103·4°. On the 27th there was intestinal hæmorrhage, about three-quarters of a pint of blood being passed. On the 28th the breathing became sighing and the patient passed into a state of stupor. Purpuric patches appeared on the arms and legs. Both arms were rigid and flexed. She could only move the shoulder of the right arm and the wrist of the left. Both legs were rigid and she could only move the right one slightly. Knee-jerk was absent on the right, but present on the left side. The plantar reflexes were still exaggerated. She was sensitive to a pinch on any part of the body. The pupils were contracted and there was nystagmus of the right eye. The abdomen was retracted. The temperature was 100·4°, the pulse 150, and respiration 16. On the 29th the patient was comatose and the limbs were flaccid. There were numerous petechiæ on the limbs and under the conjunctiva. Death supervened. The temperature was 98° a few hours before death.

Necropsy.—There were typical typhoid ulcers in the ileum, as well as numerous small hæmorrhages under the visceral and parietal peritoneum, in the lungs and kidneys, in the pericranium, choroid plexuses and septum lucidum. In the

right lobe of the cerebellum there was a tumour, an inch and a half in diameter, apparently growing from the pia mater and pressing deeply into the cerebellum and somewhat into the pons, from both of which it readily separated. There was much hæmorrhage in the deepest part of the tumour. There was no free blood in the ventricles of the brain or in the cranial cavity. On microscopical examination the tumour proved to be a fibroma.

The diagnosis was in this case peculiarly difficult, there being strong evidence both of typhoid fever and of cerebral disease, and the coexistence of the two being rare. So far as we could learn the tumour had produced no symptoms before the attack of fever, although it must have been present some time previously. Very soon after admission the strabismus, optic neuritis and loss of knee-jerks showed the existence of organic disease of the brain, but for a fortnight this did not appear to have an unfavourable influence on the disease. Then a purpuric condition seems to have set in, causing hæmorrhage into the bowel, subcutaneous tissue, lungs and kidneys, and probably the hæmorrhage into the cerebellar tumour. This last occurrence may be considered as the immediate cause of death. Extensive purpura must be rare in typhoid fever, and the question may be asked whether the tumour in any way led to its development.

Nottingham.

TREATMENT OF WOUNDS WITH IZAL.

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IN November of last year Dr. Klein mentioned to me that he had been making some experiments with a new substance called "izal,"[1] which exhibited very remarkable disinfectant properties, was non-irritant and had at the same time no poisonous influence on any of the higher animals even in extremely concentrated solutions. After carefully reading Dr. Klein's report on the subject and the account of his experiments, and after conferring with him upon the subject, I determined to test its efficiency and its applicability as a surgical disinfectant, and now, after some six months' trial, I am anxious to record the result of my investigations, but before doing so it may be advisable to recall Dr. Klein's statements:—

"Now I have to add a simple statement with reference to all species mentioned as 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 and 25,[2] for in all these instances the disinfectant used in the strength of 1 in 200 completely destroys in five minutes the vitality of the microbes; no living cultures can be produced with them. The experiments were made at first also in this instance with the disinfectant of the strength of 1 in 100, exposing the microbes in it for five, ten and fifteen minutes, and also to 1 in 200, exposure fifteen minutes; but it need hardly be said that all vitality was destroyed, as already 1 in 200 for five minutes is a complete disinfectant. (It may not be unnecessary to state here that the same cultivations of bacillus diphtheriæ and bacillus of typhoid used in this series of experiments—namely, exposure in the disinfectant of the strength of 1 in 200—were used, and with exactly the same methods also, for comparative experiments of disinfection with carbolic acid. Crystals of absolute phenol were dissolved in water so as to form a solution of the strength of 1 in 200; the microbes were then introduced into this solution and exposed to its action for various periods. As a result it was found that an exposure for two hours in 0·5 per cent. carbolic acid—i.e., 1 in 200—does not in the least injure the bacilli; good and typical growth can be established with them after the exposure. With regard to species 22, 23, and 24 (streptococci), these I knew from previous experiments with other disinfectants to be less resistant than the staphylococci and bacilli. I have therefore subjected these three species to the disinfectant in weaker strength—namely, 1 in 300—and found that an exposure for five minutes in this mixture is fatal to these microbes: streptococcus pyogenes, streptococcus of erysipelas, and streptococcus of scarlatina. From these series it follows that an exposure for five minutes in the strength of 1 in 200 (1 in 200 would mean one ounce of the disinfectant emulsion distributed in ten pints of water) completely destroys the vitality of the microbes of diphtheria, typhoid fever, fowl cholera, swine fever, glanders, cholera, of suppuration, of erysipelas, scarlatina, and other non-sporing pathogenic and non-pathogenic species."

In addition to these experiments on the destruction of microbes Dr. Klein made some researches as to the solutions that should be used with a view to inhibiting their growth, and states:

"The result of all experiments on inhibition may be briefly summarised for all the twenty-five species tested—namely, (1) Spores do not germinate in medicated gelatine or broth if the amount of disinfectant added is 0·1 per cent.; (2) no micrococcus (staphylococci and streptococci) is capable of growing in medicated gelatine or broth of the strength of 0·1 per cent. medication; (3) all non-sporing bacilli and spirilla fail to grow in medicated gelatine or broth of the strength of 0·1 per cent. medication; (4) excepted from this are the bacillus prodigiosus and the bacillus of typhoid—the bacillus prodigiosus shows growth on gelatine medicated 0·1 per cent.; the growth is retarded, and always starts from the superficial layer of the medium; it proceeds considerably slower than on normal gelatine."

These exceptions obviously do not concern one from a surgical point of view, inasmuch as bacillus prodigiosus is not a pathogenic organism at all, and the bacillus of typhoid fever does not enter wounds. It follows from these experiments that for destructive purposes a solution of 1 in 200 of the fluid is all that is required, whilst for inhibition purposes 1 in 1000 is quite sufficient. My task then was limited to determining how far solutions of this strength are available for surgical purposes and to ascertaining whether they possessed any advantages over the antiseptic solutions[3] in ordinary use, such as carbolic acid, corrosive sublimate &c.

The cases in which I have used it have been selected by me because their behaviour under the more commonly used antiseptics is so well known that it may be regarded almost in the light of a control experiment as regards this new disinfectant. The samples of the fluid which were submitted to me were diluted down to a strength of 1 in 50, and kept in bottles ready for use, the subsequent dilution to 1 in 200 being effected at the actual time of operation. The sponges which were to be used at the operation were cleansed, as is my ordinary custom, in soda-and-water and then rinsed several times in fresh water until they no longer caused any turbidity in it. After this they were placed in a jar of izal (1 in 200) and kept there for at least twenty-four hours before use. The gauze which was employed as a dressing was the ordinary gauze of commerce boiled for twenty minutes in a saucepan over the fire and then soaked for twenty-four hours at least in a solution of izal (1 in 200) like the sponges. The gauze was wrung out just before use and placed in a moist condition over the wound without the intervention of any protective or other similar substance between it and the wound. A sufficient number of folds were used to allow for any possible soakage that could take place and the outside was then covered by any substance—e.g., cotton wool &c.—which happened to be at hand in order to prevent the bedclothes from being wetted. The instruments were

[1] The substance was at that time known by the term of the "Thorncliffe disinfectant." It has since been renamed "izal." It is a by-product obtained by Messrs. Newton, Chambers and Co. of the Thorncliffe Ironworks and Collieries, Sheffield, in the process of coke formation. They have been good enough to place some at my disposal for experimental purposes.

[2] "The microbes which have been experimented with were the following: (1) Spores of bacillus subtilis (hay bacillus); (2) spores of bacillus mesentericus (a common putrefactive microbe); (3) spores of bacillus anthracis; (4) bacillus subtilis, non-spore bearing forms; (5) bacillus mesentericus, non-spore bearing forms; (6) bacillus anthracis of the blood of an animal dead of virulent anthrax; (7) bacillus of diphtheria; (8) bacillus of typhoid fever; (9) bacillus of glanders; (10) bacillus of septicæmia (mouse); (11) bacillus of fowl cholera; (12) bacillus of fowl enteritis; (13) bacillus of pneumonia; (14) bacillus of grouse disease; (15) bacillus of swine fever; (16) bacillus of swine erysipelas; (17) bacillus prodigiosus (pink), non-pathogenic; (18) spirillum of Finkler; (19) spirillum of cholera (cholera bacillus); (20) staphylococcus pyogenes aureus; (21) staphylococcus pyogenes albus; (22) streptococcus pyogenes; (23) streptococcus of erysipelas; (24) streptococcus of scarlatina; (25) proteus vulgaris (the common microbe of putrefaction)."

[3] I have used the word "solution" here and in all subsequent instances in reference to this fluid "izal," but to be strictly correct the word "emulsion" should be employed, and herein lies, in my opinion, at once the chief advantage and disadvantage of the fluid in question. Being an emulsion and not a clear solution it is not so easy to see one's instruments when they are covered by it. At the same time, it must be borne in mind that the very fact that the fluid is so singularly unable to form chemical compounds with living animal tissues is in all probability highly advantageous from the germicidal point of view. Unlike corrosive sublimate, which speedily loses its disinfectant power by combining with the albuminous substances of the body, izal retains the power in such a remarkable degree because it will not combine with anything. It is also at the ordinary temperature of the air practically non-volatile, as may be easily tested by placing a few drops on a piece of cotton wool and leaving it for several months in an exposed position.

immersed in the same fluid for a quarter of an hour and one's hands disinfected in it in the ordinary manner. As I am rarely in the habit of using ligatures and usually employ torsion in their stead, I have not made use of ligatures prepared in this fluid on more than a very few occasions, but whenever I have done so the ligatures have in no single instance given the slightest trouble nor have they in any way retarded the healing of the wound, so that one may fairly conclude that it is at least as efficacious as carbolic acid for the purpose.

The cases in which I have made use of this fluid may be described under the following heads: (1) fresh operation wounds which were uncomplicated by ulcers, sinuses &c.; (2) cases demanding special purification—e.g., ulcers &c. in which skin grafting by Thiersch's method was employed; (3) abscesses and sinuses of varying degrees of complexity, all of which were either septic to start with or at least contained pus; (4) sinuses in connexion with mucous membranes, including fistulæ in communication with the urethra and a case of prostatic abscess opening both into the rectum and bladder; and (5) foul mucous membranes, such as bladders in a condition of cystitis and mouths rendered foul by operations undertaken in their neighbourhood.

1. *Fresh operation wound.*—The first case in which izal was employed by me was an ordinary case of breast cancer. The wound healed completely under a single dressing and no pain was experienced by the patient after the operation. The same remarks apply equally to two cases of radical cure of hernia. The first was of a simple nature, but the second was complicated by the presence of a large sac and a fair number of adhesions, but no subsequent pain was experienced. The wound assumed an aseptic course throughout. In a case of goitre in which the fluid was employed one half of the gland, which was of considerable size, was dissected out and the fluid very freely used to the interior of the cavity. The jugular vein and recurrent laryngeal nerve were both exposed at the time and were freely bathed with izal, but the subsequent course of the case left nothing to be desired; and this is the more noteworthy, as with carbolic acid and corrosive sublimate there is often considerable constitutional disturbance—an occurrence which has been ascribed by some surgeons to the influence which these substances exert on the cardiac nerves which are derived from the vagus and pass down the neck.

2. *Skin grafting.*—Where large portions of skin have been lost through ulceration or in consequence of some extensive removal of a tumour the skin can be speedily restored by the transplantation of skin after Thiersch's method. This method is, however, liable to fail owing to the difficulty of cleansing the surface, and it sometimes happens that the operation has to be performed a second time in order to ensure success in consequence of the difficulty which is experienced in thoroughly purifying the surface of the ulcer and the surrounding skin with the antiseptics ordinarily in use. On the three occasions on which I have employed izal for this purpose healing has taken place most readily and without the slightest difficulty.

3. *The purification of abscesses and old sinuses.*—For this purpose the antiseptics in ordinary use are of little avail unless the surfaces are very thoroughly scraped, and it is not always possible to effect this satisfactorily. This is especially the case with smaller sinuses, which often remain unhealed for weeks after the major portion of the wound has become soundly cicatrised. I first employed the fluid for washing out a psoas abscess and an abscess in connexion with the hip-joint. In both cases the pus was first evacuated and the cavity was subsequently flushed out with hot izal (strength 1 in 200). Both the abscesses healed without further trouble and no subsequent constitutional disturbance ensued. I next made use of it in the case of two sinuses, one in connexion with an old palmar ganglion which had become inflamed and burst externally, the other being situated in the region of the loin and of uncertain origin. Both were well distended under pressure with the fluid and both healed completely about ten days later. These two results are amongst the most striking which the employment of this fluid has yielded. The patient with the palmar ganglion had been attending amongst my out-patients for several months, as well as having been in hospital on more than one occasion, and all efforts which had been directed towards healing the sinus had failed. Several times it had become inflamed and had necessitated fresh incisions being made in the palm. After the cavity had been hyperdistended with the fluid some considerable pain and uneasiness were experienced for upwards of forty-eight hours; after which it gradually subsided, and a soundly healed hand was the result. The other sinus cannot be regarded as being so striking an instance of the efficacy of the fluid, for though it healed rapidly its nature and exact extent were shrouded in mystery. After so excellent a result in the two sinuses just mentioned I employed the fluid in the same strength in a case of suppurating knee joint. The joint in question was freely opened, and was thoroughly scraped and flushed out. For a few days the pus diminished in quantity, the temperature fell and the tenderness of the surrounding parts was lessened. The effect, however, was only temporary in character. The process was repeated a second time with double strength izal—viz., 1 in 100,—but with no better permanent result. As each of these applications involved placing the patient under an anæsthetic it was not deemed advisable to make any further attempts at disinfection, and accordingly in this case izal was no longer employed, and the joint was drained in the ordinary manner.

4. *Sinuses in connexion with mucous membranes.*—Some of the sinuses of this nature with which one has to deal from time to time may be classed amongst the most tiresome which are encountered in surgery, and perhaps amongst the most troublesome of all are those fistulæ which are in connexion at the same time with the urethra, prostate and bladder. The first case of this nature in which I made use of izal occurred in a patient who had a perineal fistula subsequently to urethral stricture. Though the calibre of the urethra was fully restored the fistulous track refused to heal. It had been dilated, scraped and injected with various fluids, such as chloride of zinc, nitrate of silver, carbolic acid (1 in 20) &c., but all alike had failed and rarely a day passed without a certain amount of urine trickling out of the fistula. It was injected with izal and a week later the urine ceased to come by the false track, which has remained permanently healed ever since—i.e., for more than three months. The second case was that of a prostatic abscess which had burst both into the rectum and the urethra. A lateral cystotomy was performed and the cavity scraped out with the finger and freely irrigated with the fluid. The wound completely healed in about five weeks without leaving any fistulous track behind.

The effect of izal on mucous membranes.—It only remains to allude to the effect of the fluid on mucous membranes—for example, when it is made use of in cases of cystitis or as a mouth and throat wash after operations on those parts. In all such cases it has invariably proved of the greatest benefit. Whilst it produces little or no irritation like carbolic acid, it is considerably more efficacious, and can of course readily be employed in inflammations of the mouth, nose and throat, where a poisonous substance like corrosive sublimate is quite inadmissible.

Concluding remarks.—From a consideration of Dr. Klein's experimental researches in connexion with the substance and from my own practical experience of it I have no hesitation in saying that the antiseptic in question seems likely to prove more efficacious practically than any at present known. It will be obvious to anyone who peruses critically the account of the cases in which I have employed it that in many of the instances referred to it was put to a very severe test and that by its aid some excellent results were obtained. At the same time it is equally clear that its behaviour under all circumstances must be submitted to the test of a more lengthy experience before one can be in a position to predict that exact place which it is destined to take amongst the antiseptic fluids of the future. One thing, however, is certain—viz., that the surgeon will rejoice to hear that at last an antiseptic has been found which is easy to use, does not irritate his own hands or his patient's skin, and is at the same time by far the most powerful with which he is yet acquainted.

Harley-street, W.

MR. THEOPHILUS WILLIAM TREND, M.D., has been appointed a Justice of the Peace for the town and county of the town of Southampton.

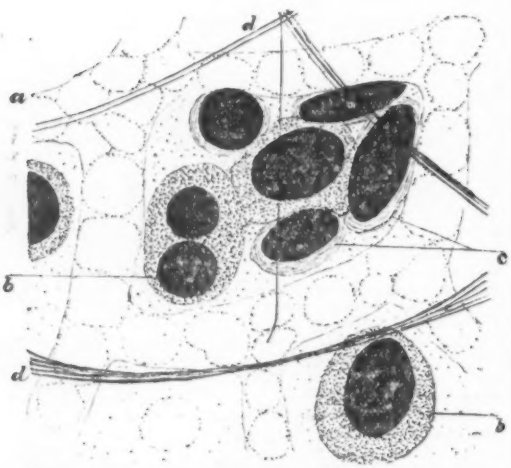
THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY (LIMITED).—A meeting was held at The Limes, Atkins-road, Clapham-park, on the 23rd inst., to consider the advisability of establishing a division of the above Society for Clapham, Streatham and Brixton-hill. Messrs. Bradshaw, Colyer, Chas. D. Davis, Arthur Graham, Alfred D. Pocock, A. J. Rice Oxley, Harry Smith, James Waghorn and G. B. Wall were requested to form a provisional committee and to make the necessary arrangements.

ON THE MINUTE CHANGES OCCURRING IN VESICULAR EMPHYSEMA.

BY A. G. AULD, M.D.,
ASSISTANT PHYSICIAN TO THE ROYAL INFIRMARY, GLASGOW.
(From the Western Infirmary Laboratory.)

IT is the prevailing view with respect to the textural alterations in emphysema that they are of a degenerative and atrophic character throughout. These changes, according to the researches of Rainey, Waters, Rindfleisch, Eppinger and others, may be summed up as loss of elasticity and degeneration of the elastic fibres, stretching and progressive wasting of the capillaries, and granulo-fatty degeneration of the corpuscular and connective tissue elements of the air cells. Perforations of the alveolar walls ensue which lead to fusion of the air cavities. A hypertrophy of the muscular fibres around the infundibular openings has likewise been noted along with this degeneration. Some regard the wasting of the capillaries as primary and so causative of the nutritive changes. This opinion is adopted in some of our text-books—e.g., Dr. Woodhead's. Others, again, amongst whom may be mentioned Hertz and Ziegler, consider the degenerative change in the walls to be antecedent to and so far determining the destruction of the vessels.

FIG. 1.

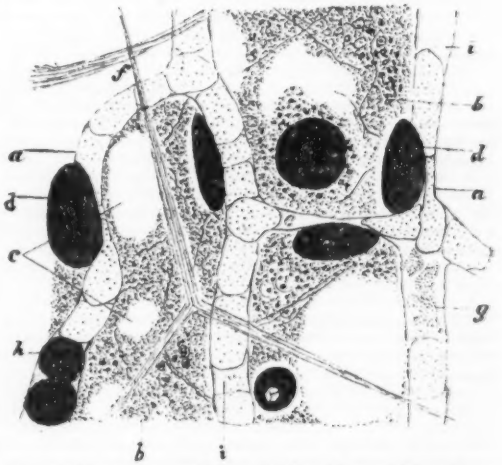


Stage of reaction. *a*, capillaries, showing outlines of red corpuscles; *b*, epithelial cells, enlarged and dividing; *c*, connective-tissue corpuscles; *d*, elastic fibres. (Zeiss, $\frac{1}{12}$ in. oil immersion.)

The observations which I have been enabled to make are such as to negative the supposition that in emphysema there is wholly a degenerative and atrophic process. On the other hand, I find that there are two stages in the morbid anatomy of the disease: one reactive and productive, the other degenerative or atrophic. Further, the conception of the changes according to this scheme renders clear the priority of the textural alterations and places the vascular atrophy as secondary.

In a portion of lung about to become the seat of a compensatory emphysema the first effects of the mechanical strain are a general dilatation of the part and a reduction in the velocity and volume of its blood circulation. The dilatation extends to the smallest bronchioles, alveolar ducts, infundibula and air cells. Seeing that the air cells are mutually arranged like the cells of a honeycomb, their expansion must in the first instance be mainly uniform in all diameters and not, as some have supposed, a mere flattening out, in order to effect which an extensive destruction of the septa would be necessary. The slowing and diminution of the circulation are caused by (1) impairment of the normal recoil, (2) the expelling influence of the air at a high pressure, and (3) stretching of the vessels, more especially those disposed round the mouths of the alveoli. A great deal depends, however, on the extent and site of the involved part and the surrounding conditions, as the size of capillaries is chiefly regulated by the amount of blood, and a heightened pressure would overcome a certain degree of stretching, so that in the early stage of emphysema it is sometimes difficult to detect much difference from the normal in thesize of the capillaries. Now, as to the air cells, the first effect of the increased air tension is to produce a compensatory reaction in the respiratory elements. It is a mistake to suppose that they immediately submit to the injurious influence. Both the epithelial and connective tissue cells enlarge, and many of them divide. (Fig. 1.) They behave, in fact, like any other tissue on which an inordinate demand is made, and this hypertrophy is in so far the analogue of what occurs in the muscle nuclei in the infundibula. I have carefully guarded against the possibility of confounding this change with a merely inflammatory phenomenon by comparing the emphysematous and non-emphysematous portions of the same lung. It is true that Villemin, Klob and Wunderlich have noted an increase in the intercapillary nuclei in emphysema; this, however, they regarded as inflammatory and unconnected with the heightened air pressure. But the phenomenon I describe is compensatory and as such may not inaptly be compared to what occurs in certain cases of atheroma. In these the increased tension in the vessel leads to swelling and division of the nuclei in the intima. As in atheroma also, this nuclear change is accompanied by a swelling of the areolar ground tissue. The result of this alteration is a widening of the capillary meshes, with consequent narrowing of the capillaries. Many of the endothelial nuclei of the capillaries likewise enlarge and cause a permanent constriction of the vessel opposite the point. (Fig. 2.)

FIG. 2.



Degenerative stage. *a*, capillaries, showing red corpuscles compressed by swollen endothelial nuclei; *b*, granular and fatty condition of intercapillary elements; *c*, perforations in wall; *d*, endothelial nuclei; *e*, collapsed capillary; *f*, elastic fibres; *g*, red corpuscles, broken up and granular; *h*, leucocytes in capillary; *i*, granular portion of capillaries devoid of corpuscles. (Zeiss, $\frac{1}{12}$ in. oil immersion.)

The reaction of the respiratory cells is not of long duration; they enter sooner or later on the degenerative stage. The protoplasm becomes granular and fatty and the nuclei vacuolate and fall to pieces. (Fig. 2.) The part, has, however, become permanently enlarged through atony of the elastic fibres, and many of the finest of these show a granular change—a finely beaded state of the fibrils. Small holes appear in the granular protoplasm, which speedily enlarge, and in this way many of the septa become completely destroyed. The capillaries undergo the following further changes: their walls become increasingly attenuated and the pressure of the endothelial nuclei blocks the circulation at many points; the red corpuscles become elongated and some of them undergo a granular degeneration (*g* in Fig. 2); many of the capillaries soon come to appear as whitish lines stretching across the granular substance. It was asserted by Isaakssohn[1]

[1] Virchow's Archiv, Bd. liii., p. 466.

that the vessels were blocked by what he terms "white thrombi"—i.e., colourless blood-corpuscles. He affirmed that the alteration began by a granular change in the endothelial walls of the capillaries, so that the characteristic white lines did not appear on treatment with nitrate of silver. On these granular places white blood-corpuscles were deposited and became so firmly fixed that even a strong injection would not drive them away. New homogeneous deposits were gradually formed over these cells, the whole obstructing mass soon undergoing a fatty degeneration. Now I am not disputing these conclusions in the main, for it is evident that a granular state of the capillaries ensues, and it is likewise true that leucocytes are frequently found in the vessels at points where they are breaking down; but it is too much to assert that this is the chief or only mode of obstruction of the capillaries, for they are often seen interrupted at points where only red corpuscles are to be found, and in particular I would draw attention to their being intercepted by endothelial nuclei in the manner described.

Glasgow.

THE RELIEF OF INTRA-CRANIAL PRESSURE BY THE WITHDRAWAL OF CEREBRO-SPINAL FLUID FROM THE BASAL SUBARACHNOID CAVITY.

BY ALFRED PARKIN, M.S., M.D. LOND,
SENIOR ASSISTANT SURGEON TO THE VICTORIA HOSPITAL, HULL.

IT is a well-recognised fact that in many affections of the brain the cerebro-spinal fluid is increased in quantity and that this is sometimes associated with increased intra-cranial pressure. The best known example is that of chronic hydrocephalus, in which disease the increased pressure leads to separation of the cranial bones and other symptoms. There is no doubt that in this instance the increased pressure is actually due to an excess of cerebro-spinal fluid, but it by no means follows that increase in the quantity of cerebro-spinal fluid is always associated with increased intra-cranial pressure, any more than that increased pressure is always associated with excess of the fluid in question. Briefly stated, the clinical conditions in which the cerebro-spinal fluid is increased in quantity are (*a*) meningitis, simple, epidemic or tuberculous, especially the last-named; (*b*) chronic hydrocephalus; (*c*) general paralysis of the insane and some cases of dementia; and (*d*) as a direct result of injury to the skull. Pathologically it is met with as a result of (*a*) meningeal inflammation, basal or cortical; (*b*) ventricular inflammation or ependymitis; (*c*) growths pressing on the veins of Galen; and (*d*) shrinking of the cortex from degenerative changes. Anatomically considered the fluid occupies the spaces between the pia mater and arachnoid, these being especially large at the base of the skull and beneath the cerebellum; a smaller amount is contained between the arachnoid and dura mater. Physiologically there is every reason to believe that the fluid is secreted by the ependyma of the ventricles and by the cells of the pia mater and arachnoid. The fluid appears to be constantly secreted and as constantly absorbed along the perivascular lymphatic vessels. In a case on which I operated some months ago, after removing a portion of dura mater from off the cortex, drops of cerebro-spinal fluid could be seen to collect on the dural aspect of the arachnoid and, running together, trickle down the surface of the brain to disappear beneath the cut edge of the dura mater, exactly like water collecting on the window of a railway carriage. That an increase in the amount of cerebro-spinal fluid is detrimental to life has been much discussed from time to time. When the fluid simply takes the place of shrunken convolutions and there is no coincident increase of pressure, as in many cases of dementia, it may fairly be argued that the increased amount can do no harm; but when the intra-cranial pressure is increased it is apparent that the excess of fluid can in no case be compensatory, for it would be equally rational to say that a pleuritic effusion compensates for a collapsed lung lying in an expanded chest, thus confusing cause and effect. As it is unlikely that the brain itself can swell so as to increase the pressure within the cranium (the question of growths being neglected), it must be conceded that any increase of cerebro-spinal fluid coincident with an increase of intra-cranial pressure must be in the relation of cause and effect. As to the way in which the increase of fluid is brought about, it seems very probable that in irritative lesions the secretive cells are stimulated, over-secretion takes place and absorption by the lymphatics is interfered with. It is easy to imagine how dilated vessels can compress the lymphatic trunks which surround them and so further aid lymphatic obstruction. Perhaps the most frequent cause of increased intra-cranial pressure from over-secretion of cerebro-spinal fluid is tuberculous meningitis. The common condition post mortem is dilatation of all the ventricles, a rough or granular condition of the ependyma, increase of the cerebro-spinal fluid especially at the base of the brain, and more or less softening around the ventricles; in some cases the cortex is adherent to the surrounding pia mater. These cases were originally designated "acute hydrocephalus." It is a debatable point whether the softening is due to inflammation, transudation of fluid, or to the actual pressure exerted by the fluid; but for the purpose of my argument this is immaterial. My object is to show that removal of the excess of fluid by gradual drainage is of the highest importance in aiding the recovery, not only of patients suffering from meningitis of any kind, but also of those suffering from any of the diseases in which there is increased pressure from over-secretion of cerebro-spinal fluid. Taking the case of tuberculous meningitis again, it must be noted that there are usually three stages, known as "premonitory," "irritative," and "comatose," and from a study of the symptoms during these stages it is a fair conclusion that during the first two there is a gradual accumulation of fluid which leads to the comatose stage by a gradual increase of pressure on the various parts of the brain. There is a great similarity between the early diffuse symptoms of a cerebral tumour and those of tuberculous meningitis, and it seems only reasonable to infer that the gradual increase of pressure is the cause in each case, whilst the final stage of coma can only be explained on the supposition that the increased pressure leads to an annihilation of function by general compression. A sudden increase of intra-cranial pressure, as in cerebral hæmorrhage, leads to similar results. It is a matter for physiological experiment how much the intra-cranial pressure has to be increased in order to interfere with the circulation through the small cerebral veins and arteries, for this seems to be the way in which the symptoms are produced and is probably the cause of the softening around tumours and in cases of tuberculous meningitis. Arguing in this way, it seems only reasonable to conclude that removal of the excess of cerebro-spinal fluid in cases of tuberculous meningitis will relieve the symptoms and give the patients a greater chance of recovery by enabling them to battle with the tuberculous infection. The so-called natural drainage by the vertebral canal seems to be altogether inefficient. Reasoning from analogy, one would say that recovery from peritoneal or pleuritic tuberculosis, after removal of ascitic or pleuritic fluid, fully justifies the suggestion that a similar interference in cerebral tuberculosis may have a good result, with, however, the proviso that, inasmuch as the brain is a very much more delicate organ and much more likely to be damaged by pressure, the interference must be early—i.e., in the irritative stage. A similar argument holds good in meningitis from other causes and in cases of compression from over-secretion of cerebro-spinal fluid following injury. Concerning general paralysis of the insane, I can only refer to an excellent paper by Dr. T. Claye Shaw[1] and to one by Dr. J. Batty Tuke.[2] I have had no opportunity of carrying out their suggestions and can only say that their treatment seems perfectly justified by the results obtained.

Puncture of the brain for the relief of chronic hydrocephalus dates back to 1744, and since that time both aspiration and, later, continual drainage have been frequently performed with encouraging results whenever done antiseptically and as early in each case as possible. Various sites have been chosen for the operation of draining of the lateral ventricles, but in order to reach them it is necessary to go through a certain thickness of the cortex, a procedure which, though not dangerous, is not altogether desirable. It has been more recently suggested that the cerebro-spinal fluid should be drained by removing a couple of lumbar laminæ and opening the subdural space; this would certainly be a favourable place for drainage, but at the cost of weakening the

[1] Brit. Med. Jour., Sept. 12th, 1891. [2] Ibid., Jan. 16th 1892

spine. The vertebral mode of drainage was adopted by me in the following case :—

CASE 1.—A boy aged five was admitted into the Victoria Hospital, Hull, on Aug. 10th, 1892, for a fluctuating swelling on each side of the dorso-lumbar spine ; he was otherwise quite healthy. On the 12th the swelling was incised and a quantity of caseous matter was removed along with two carious spinous processes. The vertebral canal was not opened. The cavity was scraped and irrigated. On the 15th the patient was very sick for the first time, and the face was rather œdematous. The vomiting continued in spite of treatment until the 22nd, when the legs were noticed to be rather rigid, the knee-jerks increased and ankle-clonus was slight. On the 24th the right hand was "en griffe" and the arm muscles were rigid ; the spastic condition of the legs was more marked ; the right hand and legs could not then be moved voluntarily. The child was in a good deal of pain, semi-conscious, kept screaming out, and when he did so the legs became more rigid. There was very slight swelling over the sixth cervical laminæ and tenderness on pressure all down the spine. The evening temperature was 100·2°. The wound being almost healed at this time, I decided to explore the upper part of the spine. On removing the fifth and sixth cervical laminæ a collection of caseous matter was found beneath them pressing on the cord posteriorly. The spinal dura mater was very tense and without pulsation, so it was incised. A large quantity (four or five ounces) of clear fluid came away, and after its escape the cord pulsated freely. The opening in the dura mater was left open and the wound sewn up, a small drainage-tube being inserted. After the operation the child seemed much relieved ; he only cried out occasionally, moved the affected arm, and was more conscious ; the painful jerkings of the limbs were less marked. On the 25th the temperature, which before the operation was about 100° at night, rose to 103·8°. A considerable quantity of cerebro-spinal fluid had drained away. There were restless movements of the left hand and arm. The legs and the right arm were still contracted. Later in the day the left arm became rigid, Cheyne-Stokes respiration set in, and the patient died thirty-six hours after the operation.

Necropsy.—There was a caseating mass in the centre of the right lung ; there were three large caseous masses in the cerebellum, one of which was in the vermiform lobe ; the ventricles were dilated and the cortex was flattened. The spinal cord appeared healthy and there was no spinal meningitis. The condition of both wounds was quite satisfactory.

Though death was in this case inevitable, the child was greatly relieved by the operation ; he had much less pain, the spasms of the limbs were less marked, and the right arm regained a certain amount of movement. The improvement seemed to be due to the relief of tension, which, however, was obviously in this case a palliative measure only.

The following is a case of what might be called "cortical drainage":—

CASE 2.—A boy aged ten was admitted into the Victoria Hospital on Sept. 13th, 1892, for fits. Four years previously to admission he had been struck on the forehead by a bottle ; a serious scalp wound was the result, but no further history was obtainable. Two years ago he became strange in his manner and eighteen months ago he had his first fit. On admission the boy had a peculiar restless and excitable appearance. A scar about one inch long extended below the right frontal eminence. There was no paralysis nor were there focal symptoms of any kind. His parents said that he had a violent temper, told lies, stole and often talked ridiculous nonsense. They could not trust him to run errands and he was becoming a nuisance to everybody. All this was verified during his stay in the hospital. The fits began with a cry, there was no tonic stage, general convulsions came on, and recovery was complete in about three minutes. No aura could be made out ; loss of consciousness was complete. There were no eye symptoms. At this time the boy had about three fits a day. Medical treatment with bromide of sodium was persevered with and electricity tried, but without result. He was discharged at the end of a month, no better, and attended at the out-patient department until Oct. 21st, when he was readmitted. The fits had increased in number up to five a day, and the moral condition was if anything more marked. On Nov. 23rd the site of the wound was explored and a circle of bone removed ; the bone seemed thinner than one would have expected in that region. The dura mater bulged markedly and the finger pressed on it seemed to dip through a thick layer of fluid before coming on to the brain, exactly like dipping on to the liver in a case of ascites. The dura mater was incised and about one ounce of clear fluid escaped. The brain looked greyish instead of pink, and the lymphatic vessels in the sulci were distended. The wound was sewn up and healed in a few days ; there was no rise of temperature and convalescence was rapid. The fits increased in number to fourteen per diem until Nov. 17th, but became much shorter, so as to be merely transitory losses of consciousness. They then decreased in number until Nov. 26th, since which date and up to June 16th of this year he has not had one. His mental condition has improved very much indeed, and when last seen he was much more intelligent in appearance, was trustworthy, and as much pleased with his own improvement as his parents were. This case seemed to me at the operation to be undoubtedly one of meningeal cyst—i.e., a localised collection of cerebro-spinal fluid, the result of the injury. It is, perhaps, too early to say that the improvement is permanent, but the relief obtained cannot be doubted.

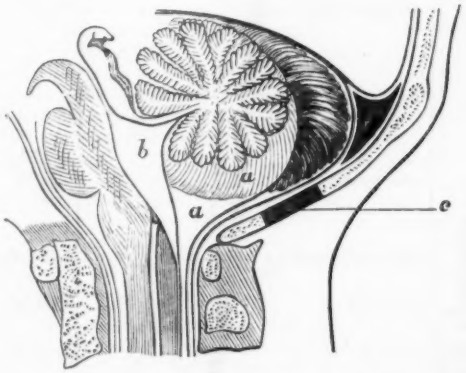
It is, however, particularly to the treatment of tuberculous meningitis that I wish to refer. The mortality at present is practically 100 per cent., for, though cases of recovery do occur, they are extremely infrequent for so common a disease. Unfortunately it often comes on as the closing point in a tuberculous career, but it does not follow that the primary cause is always or frequently a fatal condition. My attention was directed to the drainage of such cases by two papers by Mr. C. A. Morton,[3] who shows how the fourth ventricle can be best reached post mortem. It is obvious that if the subcerebellar arachnoid space can be easily reached this would be the place above all others for drainage of the cerebro-spinal fluid, for there would be no track to make through the brain as in tapping the lateral ventricles, and there would be no subsequent want of stability in the spinal column as in drainage through the spinal membranes after laminectomy. The following case illustrates the method adopted by me in a child under my care.

CASE 3.—A child aged four and a half years was admitted into the Victoria Hospital on March 30th, 1893, for what was at first thought to be enteric fever. Subsequently a three weeks' history of ill-health and want of appetite was obtained. The child was quiet, took its food well and seemed in no pain. The spleen could be felt below the ribs. The temperature was about 101° at night and normal in the morning. A few râles could be heard in the chest. On April 4th the pulse was irregular and the patient drowsy. On the 8th the child was unconscious, with transient rigidity of the limbs, slight swelling of the optic discs, but good knee-jerks. On the 9th it had Cheyne-Stokes breathing ; pulse 150 ; respiration 50. The patient was quite comatose, but moved occasionally and cried out as if in pain. Without giving chloroform I made a curved incision below the superior curved line of the occiput and to the right of the middle line. After reflecting the flap a circle of bone three-quarters of an inch in diameter was removed and the opening enlarged in a downward direction by Hoffman's forceps. The bone removed was very thin—nowhere more than one-sixteenth of an inch thick. The dura mater bulged very much and no pulsation could be felt. It was opened and a little fluid escaped. On passing a curved probe along the under-surface of the cerebellum and slightly raising it a very large quantity of clear cerebro-spinal fluid (about two or three ounces) gushed out ; pressure was relieved, and the brain pulsation returned. The Cheyne-Stokes rhythm ceased, and the pulse became larger and regular, though still very quick. A very fine, almost capillary drainage-tube was inserted beneath the dura mater, and both it and the scalp wound were sewn up. There was nothing to show that the passage of a probe into very close relationship with the fourth ventricle had any injurious effect. For some time after the operation the condition of the child was satisfactory ; the expression of the face was much more natural and the head was not moved as if the child was in pain. Eight hours later the breathing became more rapid, the Cheyne-Stokes rhythm returned, twitchings of the limbs came on and the patient died sixteen hours after the operation with a temperature at the time of death of 104·2°. There was free drainage up to the last.

Necropsy.—There were caseous mediastinal glands and acute tuberculosis of the lungs, liver and meninges of the brain. There was no lymph at the base of the brain and there were many tubercles along the vessels of the Sylvian fissure and in the velum interpositum. The pia mater

[3] Brit. Med. Jour., Oct 17th, 1891, and April 8th, 1893.

was adherent to the cortex. The ventricles were all dilated, with softening of the surrounding brain matter. The ependyma was rough and thickened over the optic thalami. The trephine opening extended to within half an inch of the foramen magnum and was a quarter of an inch from the middle line. The dura mater had been opened just over the outer side of the amygdala in a most favourable situation for drainage purposes. There was no trace of any injury done to the fourth ventricle or cerebellum by the probe used at the operation. The necropsy showed that death was inevitable, as the extensive softening caused by the pressure was an indication of great brain damage. I very much regret that the patient was so far gone before any operative measures were adopted, for the relief obtained by the operation was very marked and it seemed as though death would have occurred even earlier if nothing had been done. The appended diagram indicates the site of the trephine



Vertical section of base of skull immediately to the right of the median line. *a*, basal subarachnoid cavity and its relation to the cerebellum; *b*, fourth ventricle; *c*, site of trephine aperture in Case 3.

aperture and its relation to the subarachnoid space. The operation was really of a most simple nature and only took about thirty minutes, and I feel sure that this region of the brain is not so inaccessible as is usually thought. It is perhaps not sufficiently recognised that the superior surface of the cerebellum extends from the free margin of the tentorium in front to the lateral sinus groove behind, whilst the much more curved inferior surface extends from the lateral sinus groove to the upper border of the petrous bones. It follows that any opening made in the skull beneath the superior curved line of the occiput exposes the under surface of the cerebellum and is in close relation with the subarachnoid space. To my mind there is no doubt that this mode of drainage is most satisfactory, for, whether the openings between the fourth ventricle and the subarachnoid space are patent or not, they can easily be made so, but this will rarely or ever be necessary. In dealing with such a fatal disease as meningitis one is justified in trying anything that seems likely to be of use, and the withdrawal of over-secreted fluid seems to me to be a step in the right direction. An operation in this position would be equally advantageous for other cases in which the cerebro-spinal fluid is in excess and cannot but be regarded as preferable to spinal drainage.

The last point remaining to be noticed is that, whilst cerebro-spinal fluid may escape slowly for days without causing any bad symptoms, a rapid escape may lead to general convulsions and endanger life. It is better, for this reason, to drain by the insertion of a few strands of horse-hair or silk than by a drainage-tube, however small. From the marked relief noted in the cases under my care I feel justified in concluding: (1) That the relief of intra-cranial pressure and its effects, when due to over-secretion of cerebro-spinal fluid, is best obtained by the gradual withdrawal of that fluid; (2) that the best mode of doing this is by tapping the basal subarachnoid space in the way proposed; and (3) that by so doing there is a hope that cases of meningitis may be placed under more advantageous circumstances for recovery and a decrease in their mortality obtained. Even if recovery does not take place, the operation seems to diminish considerably the severe distension pain which is so prominent a feature.

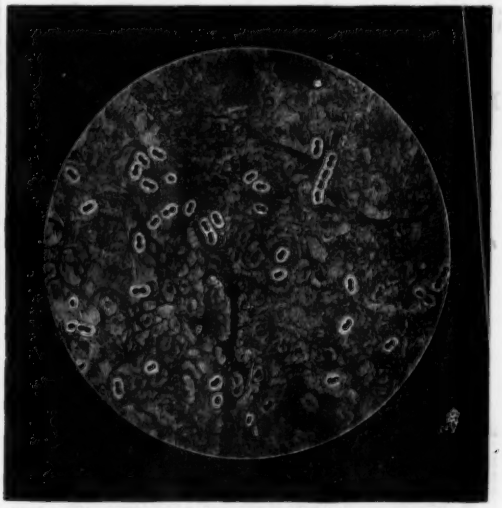
Hull, Yorks.

A CASE OF
PNEUMONIA ASSOCIATED WITH FRAENKEL'S DIPLOCOCCUS.

BY E. C. BOUSFIELD, L.R.C.P. LOND.

THE following case is of considerable interest from both the clinical and etiological points of view, especially as it bears upon the disputed question of the relative importance, as regards the causation of pneumonia, of the organisms associated respectively with the names of Fraenkel and Friedländer.

A strong, well-nourished woman, past the climacteric and not the subject of any constitutional disease, except some slight tendency to asthma, consulted me, through her husband, on Dec. 14th, 1892. The symptoms described appeared to be those of commencing bronchial catarrh and I ordered a diaphoretic and visited her early the next morning. I found her sitting up in bed, with flushed face and evident dyspnœa, the temperature was 103·8°, the pulse 120, and the respiration 60. There were no physical signs to account for the dyspnœa, no moist sounds of any kind, no dulness on percussion, or even diminution of resonance. The general condition was, in short, much more suggestive of a general infection of some kind than of a trouble localised even to the extent to which such a statement can be true of pneumonia. There being no indications for specific treatment, I contented myself with ordering a linseed and mustard poultice over the lungs behind, and continued the former mixture with the addition of aromatic spirit of ammonia. In the evening I found the condition of the patient practically unchanged, but on the following morning a small amount of a slightly blood-stained and extremely viscid expectoration was coughed up during my visit, and on examining it I found it to contain in enormous numbers—in fact, almost in a pure



Sputum of patient, × 1000 diameters, stained in Weigert's methyl-violet for five seconds and washed with water. (From a photograph by the writer.)

state of cultivation—a diplococcus which from its reaction to Gram's staining I concluded to be that known as Fraenkel's pneumococcus. On cultivation this was established beyond the possibility of doubt, the organisms presenting all the characteristics of the diplococcus just named, even to the tendency, which I have repeatedly noticed in this organism, to assume, after passing through several generations on agar-agar, the characters of the erysipelas organism, as regards the number of cocci of which the chains are composed. The

only other organism present in plate-cultures was a yeast fungus in small numbers. The great freedom from contamination by forms derived from the mouth was probably due to the fact that the patient had eaten an orange just before expectorating. The discovery of the microbe sufficed to clear up and to confirm the diagnosis, but did nothing to facilitate the treatment, and in spite of the use of various remedies, chiefly directed to the promotion of the expectoration, which continued small in quantity and extremely viscid in consistence, and free stimulation, the symptoms of general infection became steadily more pronounced, whilst, as regards the chest, the physical signs remained as purely negative as they had been on the first day of the disease. It was only towards the termination of the case that some doubtful signs of consolidation at the right base made their appearance. The temperature ran as follows: 15th, morning, 103·6°; evening, 103·8°; 16th, morning, 103·8°; evening, 103·6°; 17th, morning, 103·4°; evening, 102·7°; 18th, morning, 101·8°; evening, 101·6°. The slight remission in the temperature was probably owing to the use of antipyrin, of which fifteen grains were given each evening—not with any idea of influencing the course of the disease, but because the patient appeared to obtain more rest in consequence. The respiration throughout after the first day was 88 and the pulse 168 until the morning of the 19th, when, making an early visit, I found that the temperature had fallen to 97°, the respiration to 48, and that the pulse was too quick and feeble to be counted. The face, which had been cyanosed to some extent the night before, was livid; and in spite of free administration of stimulants the patient died in half an hour. My belief is that death was not due so much to interference with the functions of the lungs as to the action of the toxin produced by the bacteria which were present in such abundance. The absence of physical signs in the chest and the very pronounced evidence of general infection seem to me to warrant this belief, and my main object in publishing this case is to insist upon the necessity of examining the sputum in cases of pneumonia, not only in order to confirm the diagnosis or, as in this case, to establish it, but to add to the amount of information already available as to the causation of this disease. It is not always as easy to do so as it was in the case just narrated, but some information may always be obtained without unduly drawing upon the time of even a busy general practitioner.

Old Kent-road, S.E.

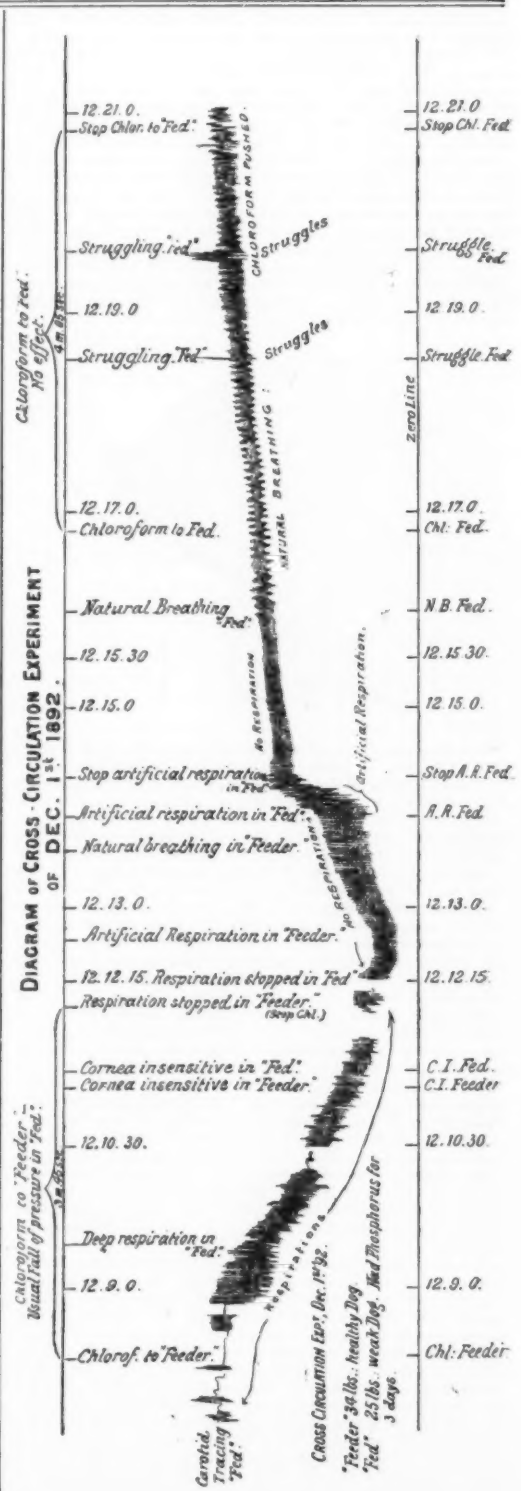
EXPERIMENT ON THE EFFECT OF CHLOROFORM ON THE BLOOD-PRESSURE.

BY SURGEON-LIEUTENANT-COLONEL EDWARD LAWRIE.

Cross-circulation experiment of Dec. 1st, 1892; the "feeder" was a healthy pariah dog 34 lb. and the "fed" a weak pariah dog 25 lb. in weight; to the fed one grain of phosphorus had been administered daily for three days before the experiment in order to induce artificial weakness of the heart; cross-circulation was established at 11 h. 50 m. from the right common carotid artery of the feeder to the left common carotid of the fed, and from the right and left external jugular veins of the fed to the right external jugular vein of the feeder.

H.	M.	S.	OBSERVATIONS.
12	8	10.	—Chloroform gently to the feeder.
12	9	30.	—Deep respiration in the fed.
12	11	5.	—Cornea insensitive in the feeder.
12	11	10.	—Cornea insensitive in the fed.
12	12	0.	—Respiration stopped in the feeder; stop chloroform.
12	12	15.	—Respiration stopped in the fed.
12	12	30.	—Artificial respiration in the feeder.
12	13	40.	—Natural breathing in the feeder.
12	13	55.	—Artificial respiration in the fed. At 12 h. 14 m. 20 s. the artificial respiration was stopped in the fed and natural breathing was restored spontaneously at 12 h. 16 m.
12	16	50.	—Chloroform to fed. The chloroform was pushed for four minutes without producing any anæsthesia or lowering of the blood-pressure or alteration in the respiration.

This experiment shows that when chloroform is sent to the brain alone it produces its usual effect—viz., lowering of the blood-pressure with (1) anæsthesia, (2) stoppage of the respiration and (3) ? death, and that when it is sent to the heart alone it produces no effect whatever.



THE USE OF REPEATED FRACTIONAL DOSES OF CALOMEL.

BY CHARLES W. CHAPMAN, M.D. DURH., M.R.C.P. LOND,
PHYSICIAN TO THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART ETC.

PERHAPS some apology is needed for referring to the use of so well-known a drug as calomel; but I have had such marked success from its exhibition in the manner presently to be described that I am induced to publish a few details on the subject. Moreover, I do not find the use of calomel in minute doses referred to in the usual text-books on medicine or pharmacology. In cases of gastro-intestinal catarrh, whether following upon exposure to cold or from improper feeding (especially in children), where the stomach is intolerant alike of medicine and food, repeated small doses of calomel are of great benefit. A similar plan of treatment has in my hands been of great service in adults with protracted vomiting, where the more obvious causes for the sickness have been eliminated and the only additional symptoms have been an indefinite pain in the hepatic region and an abnormally red tongue. The following may be taken as illustrations of these two classes of cases.

CASE 1.—A child aged four years, after attending a children's party, thinly clad and partaking liberally of the good things provided, became ill. The bowels had been irregular, the motions being offensive and of a clay colour. Food which had been occasionally rejected was now not retained at all; the tongue was red and the breath sour. The temperature was 100°. The usual remedies having failed, the stomach was to have entire rest, small pieces of ice only to be taken by the mouth. Small beef-tea enemata with the occasional addition of a teaspoonful of brandy were to be administered every half-hour or hour. The following powders were prescribed: calomel, one grain; sugar of milk, eight grains—to be divided into ten, one to be placed on the tongue every fifteen minutes. By the time eight powders had been taken all the symptoms were improving and the child looked brighter, the bowels acted gently, and a little milk with lime-water was retained. Under bismuth and soda, together with judicious feeding, the child soon recovered its usual health.

CASE 2.—This patient was fifty-four years old, of spare frame, in good circumstances and most enthusiastic in church work, in addition to a large amount of district visiting &c., and would insist on attending early service fasting. She suffered from frequent attacks of indigestion and prostration, for the relief of which recourse was had to an occasional purge. As might have been expected a time came when the aperients not only failed to do good but brought on an irritable condition of the intestinal tract. On being called in I found the patient in a very feeble state, with the face pinched and inability to retain anything on the stomach. The bowels had been well acted upon, the tongue was red and patchy, and the breath faint. Effervescing mixture, champagne and other means failing to check the vomiting, I advised a plan of treatment similar to that prescribed in the previous case, the enemata of course being larger. The calomel was given in doses of one-sixth of a grain every twenty minutes until two grains had been taken. The effect of the treatment was most marked, improvement setting in after the first few doses had been taken. A small but faint-smelling motion was passed after the eighth powder, and at the same time the breath lost its peculiar sourness. The patient rallied but slowly owing to her weak condition, but ultimately returned to her normal state of health.

I now pass on to consider the applicability of this mode of treatment in the later stages of heart disease, where long-standing valvular disease has by backward pressure caused the well-recognised visceral complications, amongst which may be noted congestion and catarrh of the alimentary tract consequent upon the chronically gorged state of the liver. It is obvious that, digestion and assimilation being thus interfered with, not only does the general nutrition suffer, but the already enfeebled and dilated heart yields more and more; the jaundice deepens; the œdema becomes general and threatens to block up the lungs; the urine is scanty and loaded with albumen; and the heart, by its irregular and intermitting action, seems on the point of giving up the weary struggle against such long odds. The medical attendant finds the remedies which have all along stood him in such good stead no longer succeed, for they are either rejected by the stomach or, if retained, are not absorbed.

The following case is so striking an example of the benefit derivable from the mode of treatment here advocated that—with the consent of my colleague, Dr. Herschell, under whose care the patient was admitted—I give it as an illustration.

CASE 3.—A woman twenty-five years of age was admitted on March 11th to the National Hospital for Diseases of the Heart. Her family history was good. She had enjoyed good health until seven years ago, when she had rheumatic fever, being confined to bed for fourteen days. Her present illness came on after five years' good health—i.e., two years ago. She had been gradually getting worse and complained of palpitation, sensation of tightness round the waist, œdema of the legs and inability to lie on the left side. On admission the pulse was irregular and weak (120); the heart's apex was at the sixth space, a distinct thrill being audible. A double bruit at the apex was heard, the systolic murmur being conducted to the axilla. The heart's action was irregular, intermittent and tumultuous. The urine, of sp. gr. 1030, contained a copious deposit of lithates and a trace of albumen. The appetite was bad. There was much flatus. Without going into the details of the report, it will suffice to say that under treatment the symptoms improved up to the early part of April, when the secondary effects of heart failure became more marked. During the later days of April and the first week of May sickness was every now and then noted. On May 7th there was considerable œdema of the face. The medicine caused sickness. On the eighth the symptoms became aggravated. Five grains of calomel and two scruples of compound jalap powder were ordered. No effect was produced by the powder, which was probably returned during the attacks of vomiting. The jaundice was now intense and the breath sour and offensive. On the 9th the patient appeared to be sinking. With some difficulty her wish that she should return home and die there was understood. Her condition was, however, so critical that it was considered unsafe to move her. On consultation one-sixth of a grain of calomel every half-hour and nutrient enemata were ordered. On the 10th she had taken twenty-four powders, being equal to four grains. The bowels were opened three times; the œdema of the face was much less. She seemed better and was taking milk and soda in small quantities. On the 11th she had taken eighteen more powders, being equal to three grains. The œdema was still further reduced. On the 12th the bowels were freely opened. Her general condition was much improved and she was cheerful. The journey to her home was successfully made in the afternoon. A few days later her medical man reported that the patient was able to walk out of doors with assistance. A later report is equally satisfactory. In this case the usual remedies, acting directly on the heart—whether taken alone or combined with diffusive stimulants—ceased to do any good. Bismuth, alkalies, creasote &c. gave no relief to the gastric symptoms. Calomel in hitherto efficacious doses was rejected and the woman was sinking. That the treatment saved the patient from impending dissolution was obvious to all who watched the case.

The probable explanation of the success of the treatment adopted in the three illustrative cases may thus be summed up: In the two former cases the symptoms were due to catarrh of the upper part, at any rate, of the alimentary tract, associated with some hepatic congestion. I am inclined to attribute the earlier beneficial effects of the calomel to the germicidal and antiseptic properties of the mercury. Certain it is that the stomach became more tolerant of food, and the breath began to lose the odour one is accustomed to connect with the fermentative process, before the liver could have been acted upon by the drug, though improvement is more marked after the bowels have been acted upon. In the cardiac case relief of the portal congestion is probably the most important effect of the calomel. The right side of the heart, feeling first the lessening of the pressure, is able to do its work better; the hepatic cells resume to some extent their function; and the kidneys, sharing in the general relief of tension, cause a decrease of the jaundice and lessening of the œdema. The appetite returns in due course.

Weymouth-street W.

SIMULTANEOUS AND SYMMETRICAL TUMOURS OF THE LACRYMAL AND PAROTID GLANDS.

BY SIMEON SNELL, F.R.C.S. ED.,
OPHTHALMIC SURGEON TO THE SHEFFIELD GENERAL INFIRMARY.

THE few cases of this nature which have been published and to which attention has been drawn in a recent issue of THE LANCET must be my excuse for putting on record this case, though it is less complete in some details than I could have wished. A married woman aged sixty-one was admitted into the Sheffield General Infirmary under my care on Oct. 17th, 1834. There is nothing to mention about her family history except that four brothers and one sister died of phthisis. Beyond also chores, scarlet fever and rheumatism in quite early life there is nothing to record in her personal history; she has since then had good health. Catamenia ceased when she was forty-five. She, however, came to the infirmary on account of swellings of the eyes. In the previous January she noticed that the right eye was swelling and also the cheek; the left began shortly afterwards. On examination the following conditions were noted. In the right orbit at the outer and upper angle there was a lobulated growth just in the situation of the lacrymal gland; a portion projected more under the upper eyelid. The growth was of considerable size and appeared to be closely attached. In the left orbit the situation of a similar growth was detected; it was, however, smaller in size. Both reached down under cover of the external wall of the orbit and could be seen under the conjunctiva. They also formed noticeable swellings in the eyelids. There was likewise at this time some swelling of the parotid glands, sufficient to attract attention from the enlargement it gave to the side of the face. Some other conditions I remember well were present at this time. The tongue was dry and glazed-looking, presenting a very peculiar appearance; there was a want of moisture in the mouth and the soft palate was somewhat swollen. In the left eye there were old retino-choroidal changes and vision was reduced to "fingers at one foot"; the right indicated +3 D $\frac{6}{12}$. She remained in the infirmary for some little time. After this she was lost sight of, as she lived a little distance away. She did, however, pay me a visit a year or two afterwards, and then both the lacrymal and parotid enlargements had increased in size. Unfortunately the notes made by me at the time have been mislaid. Later still I heard of further enlargement of the side of the face, but a projected visit to her was put off by the sudden death of her medical man, followed by her own shortly afterwards. She died on Aug. 27th, 1889. A daughter of the patient some time ago came to see me at my request and from her I learnt the following particulars. The orbital tumours greatly increased in size. The left became the larger; it was the size of a small teacup, was of a bluish colour, and reached to the temple and down the face. The right side was very large, but smaller than the left. The right side of the face became ulcerated, making a hole into the mouth; the patient had swellings on both sides of the face (parotids), but it was the right side only which "broke." She always complained of her mouth being dry and her tongue also; "she had not spittle enough to moisten a stamp." The sublingual and submaxillary glands were full when she had been last seen by me and they continued evidently to be affected with the parotids. She lingered for six months after the face "broke" and died exhausted. The lumps in the orbit had covered over the eyes so much that sight consequently became worse. The daughter told me that several years before any trouble came to her mother's eyes in the way described she had been salivated and that her teeth had fallen out in consequence.

A summary of the cases of symmetrical tumours of the lacrymal and parotid glands which have been recorded is given in the *Ophthalmic Review* for May, 1892, page 146. Dr. Fuchs' case was that of a man aged sixty-one and he was under observation for twelve months without appreciable alteration. A portion of the orbital growth, removed and examined with the microscope, showed that it was a lymphoma. The second case was in a girl aged twelve and slowly progressive enlargement of the lacrymal and parotid glands occurred; the submaxillary glands were also affected. A year later the enlargement of the parotid and lacrymal glands had almost disappeared, but the submaxillary gland had become larger. This was Dr. Haltenhoff's case. A third (that of Dr. Mikulicz) was one in which the lacrymal and all salivary glands were implicated; it was thought to be a case of lympho-sarcoma. Another reported by Gordon Norrie was probably a case of dacryo-adenitis following mumps. A fifth case has been recorded by De Wecker and Masselon in a soldier aged twenty-six. Between March, 1891, and August of the same year the swelling beginning at the first date had increased so much that the palpebral fissures were reduced to small chinks. The swelling in the parotid regions had commenced about the same time. The lacrymal tumours were removed and the microscopical report was: "Epithelial tumours of the lacrymal glands." Two months later the patient was in perfect health and the parotid swelling was subsiding. These are, as far as I have been able to ascertain, the only cases on record, except the interesting case referred to by Dr. Parkhurst in a note in THE LANCET of March 25th, p. 690, relating to lacrymal enlargement associated with ordinary mumps. It will be noticed that the cases which most resemble each other are that of Fuchs and my own. During the time Fuchs had the case under observation (one year) no progress appeared to have been made in the disease. My own was very slow, at all events at first, but the after-progress could hardly leave any doubt as to its malignant nature. It is the only case which apparently up to the present has been traced to its termination.

Another point worthy of note is the dryness of the mouth and tongue, indicating, it would seem, an insufficient secretion of saliva. The records accessible to me now do not mention whether the same has been observed in the cases above alluded to. My notes make no mention of the secretion of tears, but in cases in which the lacrymal gland has been inflamed (adenitis) an interference with secretion has been observed, *vide* my case of symmetrical dacryo-adenitis.[1]

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

THE USES OF PAPAIN AS A "SELECTIVE CAUSTIC."

BY H. ALEXANDER FRANCIS, B.A., M.B., B.C. CANTAB., M.R.C.S. ENG.

THE fact that papain has the power of digesting and thereby destroying dead and diseased animal matter, whilst it is inactive towards healthy living tissue, is not, I think, sufficiently appreciated by surgeons. Mr. Lightoller of Ipswich, Queensland, first pointed out to me its value as a "selective caustic." He has used it with success in a great variety of cases; but I wish now to draw attention particularly to its usefulness in three classes of cases.

1. *Diphtheria.*—There is little doubt that the reason why papain has fallen into disuse in the treatment of diphtheria is that it has been used too sparingly. It is non-poisonous and can be applied freely without danger. My experience agrees with Mr. Lightoller's that almost all trace of diphtheric membrane disappears in a few hours in cases where the powder can be insufflated freely and frequently.

2. *Tuberculous ulceration.*—On Oct. 7th, 1890, I was consulted by a patient who had suffered from influenza in the previous May, and since then "cold after cold had kept his voice hoarse." At times he suffered from constant expectoration and cough; he had tried various inhalations and mixtures without obtaining relief. There was a slight family history of phthisis. On examination there were signs of disease in the right lung, but these, I was informed by his regular medical attendant, had been present for six years previously. The left vocal cord was ulcerated along its whole length. There was considerable infiltration of the ventricular band and the arytenoid body on the same side and an œdematous-looking swelling in the inter-arytenoid commissure. By microscopical examination of the sputum I repeatedly found the bacillus of tubercle and felt no doubt about the tuberculous nature of

[1] Transactions of the Ophthalmological Society, 1892, p. 51.

the disease. On the 23rd I began the lactic acid treatment, gradually increasing the strength of the acid from 10 per cent. to 60 per cent. Finding little benefit derived from its use, I later employed a paint of 20 per cent. menthol in olive oil. After five months the local condition showed little improvement, although by careful dieting the patient had improved in weight and general health. Two medical men saw the case in consultation with me and neither felt any doubt as to its tuberculous nature. One, an experienced bacteriologist, found numerous bacilli in a microscopical specimen of the secretion. On March 7th, 1891, I applied a drop of saturated solution of papain in glycerine with a laryngeal probe to the anterior extremity of the ulcerated cord. A few hours later I found a clean depression at the spot, free from the dirty-grey secretion that covered the rest of the cord. After this I applied papain freely each day by insufflation of the powder or by painting with a glycerine solution. The cord very soon presented a healthy, smooth appearance and showed signs of healing from the anterior extremity. By April 20th the cord had apparently healed and regained its natural colour, except for a pinkish tinge over its middle third. The patient was then obliged to leave the neighbourhood, and I did not see him again until May 25th, when the ulceration was healed, except at one spot. The papain was continued, and by June 22nd it was hard to tell which had been the diseased cord. I examined the larynx at intervals after that, and last saw it on Jan. 3rd, 1892, when I made the following note: "Left cord slightly thicker than right; surface quite normal; some swelling in arytenoid commissure; cough almost gone. Weight 10 st. 5½ lb. (weight on Jan. 5th, 1891, was 10 st. 1½ lb.)." I have received a report from the patient dated April 25th, 1893, in which he gives a very bad account of the progress of the disease in his lungs, but states that his larynx shows no signs of disease.

3. *Lupus.*—Six months ago I was consulted by a man suffering from lupus vulgaris. He had a patch about the size of a two-shilling piece on the left cheek, extending from the ala of the nose. From the history of the case and its appearance I felt there could be no doubt as to the diagnosis, but in order to make the test more reliable I had the diagnosis confirmed by the opinion of two other medical men. I gave the patient a saturated solution of papain in glycerine, with instructions that a small quantity was to be rubbed in over the patch night and morning. The patient did not carry out my instructions regularly; but in two months there was a great improvement in its appearance. The papules had disappeared, and although the surface was still raw and red it had a healthier appearance and showed marked signs of general healing. At the present time the ulceration has completely healed, the surface being soft and flexible and only slightly discoloured. Mr. Lightoller has quoted a case to me of lupus vulgaris which on two occasions he had extensively scraped and cauterised. As the ulceration recurred, he employed papain, under which the disease apparently disappeared, and after a lapse of three years there has been no return.

I know that single cases prove little or nothing; but these, I consider, warrant a further trial being given to papain, the usefulness of which may possibly be greatly extended.

Barcaldine, Queensland.

RETENTION OF A COIN IN THE ALIMENTARY CANAL FOR MORE THAN NINE MONTHS.

BY JAMES KEARNEY, M.R.C.S. ENG.

I VENTURE to send this case to THE LANCET, deeming it worthy of publication.

About ten months ago I was called to see a child aged one year and seven months who had swallowed a foreign copper coin slightly larger than a farthing. On my arrival there was nothing in the appearance of the child to indicate anything unusual having occurred. I recommended the mother to feed the child on boiled bread and porridge for the next two days and to watch for the passage of the coin by the bowels. I visited the child on the following two days and was informed that the coin had not passed. I did not see the child again for four months, when I was called to attend it for bronchitis, and was told that the coin had not passed in the interval. I was inclined to conclude either that the coin had been passed without being noticed or that the child had not really swallowed it, but the parents still persisted in saying that the coin was in the "bowels." A few days ago to my surprise I was told by the father that the child had passed the coin, it having been retained in the alimentary tract for nine months and four days. I may say that the child had no convulsions and did not seem to be injuriously affected in any way by the retention.

Dr. Edward Browne, physician to St. Bartholomew's Hospital, records in his description of Vienna (Travels, 1685) a case in which a knife swallowed by a Bohemian peasant remained in the stomach for nine months; and Daniel Becker, in his "De Cultrivoro Prussiaco Observatio et Curatio," published in 1638, described a similar case. Many instances of the retention of coins and other articles in the alimentary canal are recorded in museum catalogues and medical journals; but every example which illustrates the fact that immediate operative interference is unnecessary and that too energetic medical treatment need not be adopted has some value.

Bartholomew-close, E.C.

LIGATURE OF THE EXTERNAL ILIAC ARTERY FOR ANEURYSM OF THE POPLITEAL AND FEMORAL ARTERIES OCCURRING IN THE RIGHT LIMB.

BY F. ENSOR, M.R.C.S. &c.

THE patient was a stoutly built man aged twenty-seven with dark eyes and hair, pale complexion and stains on the legs and back suggestive of syphilis, the acquisition of which was denied; he was of active habits. He stated that about the beginning of February, 1891, in the act of running he slipped on the wet grass and fell, and at once felt a pain at the back of his right knee. He took no further notice of the accident until in September he noticed a swelling at the back of the joint which was painful and pulsated. He then went to a medical man, who gave him medicine and applied pressure over the artery in the thigh nearly every day for two months. Shortly after going to the medical man he noticed a swelling in the groin which pulsated. He was admitted into the Provincial Hospital, Port Elizabeth, on Dec. 15th, 1891. The appearance of the limb on this date was as follows: The leg was slightly bent on the thigh and the muscles were wasted, and a feebly pulsating tumour as large as a medium-sized cocoa-nut occupied the popliteal space and extended up the limb; there were stains of pressure in the line of the femoral artery on the skin. Another tumour about the size of a large egg, which caused much pain and pulsated strongly, occupied the site of the common femoral artery. The diagnosis was easy. Accordingly, on Dec. 23rd I put a carbolised silk ligature on the external iliac artery, cutting both ends short. I used a drainage-tube and dressed with iodoform. The subsequent treatment offers nothing of moment to record. The pulsation stopped in both aneurysms. The foot, wrapped in wadding and flannel, retained its temperature and no bad symptoms supervened. He was allowed to return to his home, a few miles out of town, a little over a month after the operation. A few days before leaving he was given the following medicine: six drachms of syrup of iodide of iron, three drachms of solution of bichloride of mercury, one drachm of dilute nitric acid—water to twelve ounces; one ounce to be taken three times a day, which he continued to take, with intervals of a week or ten days, with the greatest benefit, as evidenced by the nearly total disappearance of the stains on the skin, and he is now in a condition of robust health.

Now I would crave space for a few lines about the operation itself and ask a question concerning the landmarks of the operation for ligature of the external iliac artery, an operation which I apprehend occurs but seldom, even in the practice of the busiest surgeon, and one which any surgeon must approach with a keen sense of responsibility. I may state that I ligatured the external iliac on dead subjects three times a few days before operating; twice with success, and once I failed by reason of opening the peritoneum and the consequent escape of intestine. I noticed that it seemed easier to avoid wounding the peritoneum during operation on the living tissue than on the dead because of the elastic resistance of the former. Although I may seem to be tedious to any anatomical demonstrator who may read these lines, yet I think they will be of use to any young surgeon who has to operate on the artery in question. Before the operation of course I had made up my mind as to the length and course of the incision, which I intended to be as follows: To strike a line from the umbilicus to the

centre of Poupart's ligament; to mark a spot one inch above this and one inch to the right—i.e., to the surgeon's right; then to mark a spot one inch above the anterior superior spine of the ilium and one inch internal to the spine; and to join these two points by a clean cut having a slight curve to the left. Before the operation I had an argument with a *confrère* and he differed as to the spot of termination of the lower end of the incision. I was in favour of its being an inch to the right—i.e., to my right; he urged an inch to the patient's right. I followed this latter direction, and, as I shall show, nearly failed. But to return to the operation. Chloroform was the anæsthetic used, which the patient took badly; the respiration was very shallow, the pulse failing early, and this anæsthetic was changed for ether. I cut the transversalis fascia on a director and succeeded in freeing the approach to the peritoneum, from end to end of the incision; no artery required ligature and no wound was made into the peritoneum. The latter was carefully and gradually pushed aside, and I anticipated an easy and quick termination to the operation, but found myself in a very confined space too much to the right, and there was no pulsation to be felt. I had to enlarge the incision at its upper end to obtain more room. The patient was now in a critical condition, the respiration was very shallow and he was almost pulseless. It came to be an affair of a minute or two. I therefore passed my finger and thumb deeply in below the edge of the pelvis, grasped what I felt must be the artery from its smooth elastic roundness, passed the aneurysm needle close to my finger-nail and fortunately encircled the artery; before tying the silk I ascertained by pressure that I had controlled the circulation in the femoral, and I finished the operation by inserting a drainage-tube, irrigated the wound with bichloride lotion and closed it with silver wire. I was within a terribly short distance of failure, and my patient might exclaim with Horace, "Quam pœne vidimus eacum." I consider that had I followed the first proposed incision I should have found the artery with ease and comfort, but being too much to the outside I came upon the psoas muscle instead; hence the necessity for enlarging the wound to allow of my pushing the peritoneum further away towards the middle line. The moral to be drawn from this case is that before undertaking any operation of magnitude the details should be clearly thought out. The operator should not be influenced by the opinion of anyone who may be present, but he should complete the operation, although the patient, as in the present case, be almost pulseless. I may state that some ten or fifteen years ago I ligatured the external iliac artery for hæmorrhage after gunshot wound, and, making use of the incision I intended, I found none of the difficulties that occurred in the present case. About the latter end of February the patient, whilst moving about on crutches, slipped and fell. He felt something give way in the swelling at the back of the joint, which rapidly disappeared. At the time this caused considerable anxiety, but no harm resulted; a few days' rest and the application of lead and spirit lotion seemed to be of service. In August, 1892, he had returned to his duties; there was no pulsation to be felt either in the femoral or popliteal arteries and he moved about freely with the aid of a stick, the muscles being thin and wasted from want of use. The case is interesting as occurring in a comparatively young man and from the existence of two separate lesions in the same arterial track. I think the marked improvement from the use of the specific remedies points to the *fons et origo* of the disease.

Port Elizabeth, South Africa.

SMALL-POX IN MEXICO.

By R. F. WILEY, L.S.A., B.A. CANTAB.

THE following four cases of small-pox may be of interest. As will be seen each case presented some little divergence from ordinary cases.

CASE 1.—A man aged fifty-five, healthy, but of very drunken and vicious habits, was taken ill whilst at work on Feb. 28th, but had been quite well on the previous day and did not complain of pain till midday on the 28th. I saw him at 3 P.M. and found him in bed. The temperature was 103° F., the lungs were normal, the heart was regular, the second sound being very sharp; the pulse was 80; the skin was hot and the abdomen was a little distended but was not tender to the touch. He had passed a soft, dark-coloured motion at 2 P.M., one hour before I saw him. The urine was normal in appearance. He had been drinking, but it was difficult to say whether he was drunk or delirious. I saw him again at 11 P.M. on March 1st. He said he felt much better. The pulse was 100 and the temperature was 102·5°; he had been spitting a little blood and his eyes were bloodshot. The abdomen presented a copious red macular eruption; there was also an eruption of slightly raised, circular, red spots with yellow centres, and there were about eight blue spots, exactly resembling tattoo marks. The whole body was of a reddish colour. At 5.30 P.M. on the same day (March 1st) the man was evidently dying. The abdomen and other parts of the body were covered with blackish-blue discrete spots. There was a good deal of hæmorrhage from the mouth. Death occurred at 7 P.M. The duration of the illness from the time of leaving work to his death was twenty hours. He had no vaccination marks.

CASE 2.—A youth aged nineteen was first seen on April 2nd, when he had ulcerated sore-throat, high fever, a bubo in each groin, and a sore that suggested syphilis. He had been drinking heavily for some weeks and he had fits occasionally, which were said to be epileptic. He passed out of my care, but fourteen days later he came to see me. He then complained of severe pain in the spine, headache and sore-throat. On examination there were deep ulcers in both tonsils; there was no vomiting; the temperature was 100°. I saw him every day. His throat improved, but the temperature remained high and the pain in the back persisted. On April 23rd he developed a well-marked eruption, which became confluent. The disease ran a very protracted course and terminated in recovery. He had not been vaccinated in childhood, but had been submitted to the operation one month previously to illness, but unsuccessfully.

CASE 3.—A man aged twenty-eight on April 10th complained of pain in the back and severe headache; there was no vomiting and the temperature was 103°. On the next day the temperature rose to 104°. On April 12th about ten spots appeared on the forehead and a few on the arms. The eruption matured up to a certain point and then died away without any discharge. The patient was practically well on the 16th. He had been vaccinated three weeks before the attack and the scab of the resulting pustule was actually present at the time.

CASE 4.—This case exactly resembled the previous one, the patient having been revaccinated six weeks before the attack. He was in bed for two days and was practically well on the seventh day.

I may say that small-pox is always with us, but is epidemic every year from February to April. The natives consider it a disease of childhood, but this year's epidemic has been very severe, and I am told by the Mexican medical man here that it has killed 70 per cent. of those attacked in this town. Personally I have seen about twenty cases amongst adult whites, there being two deaths, both patients being unvaccinated. For three months every year in this district small-pox provides me with more work than I care about, and as natives are never revaccinated and will wear the blankets from the bed of a small-pox patient—and do, to my certain knowledge—there is no stamping out an epidemic.

Zumpango, Mexico.

UTERUS INVERTED FOR NEARLY TWENTY YEARS BECOMING MALIGNANT.

By THOMAS OLIVER, M.D. GLAS., F.R.C.P. LOND.,
PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

A MARRIED WOMAN aged fifty-eight was admitted into the Royal Infirmary, Newcastle-on-Tyne, on Nov. 15th, 1892, complaining of incontinence of urine of a week's duration. There was nothing in her family history that calls for comment. The patient had never had any illness and her menstrual history had been satisfactory. She was married at the age of forty, and she had borne one child. Since the birth of that child she had always had a large mass hanging out of the vagina. She had been sensible of an increasing amount of debility and for a week before admission had been suffering from a constant dribbling of the urine—night and day. It was this circumstance which forced her to seek medical advice. There was considerable emaciation and she looked quite ten years older than the age given. The pulse was weak, compressible and 80 per minute; the temperature, which was normal on admission, rose to 100° a few days

afterwards, but soon fell again. Over the mitral and aortic areas a loud systolic murmur was heard, the latter being well conducted into the vessels of the neck. The lungs presented nothing remarkable, and the liver and spleen nothing unusual. On examining into the cause of the incontinence of urine the following condition was found. Projecting from the vagina was a mass the size of a large pear. The lower half of this was covered by a thick, hard, dry layer of flattened epithelium, whilst the upper half was irregularly ulcerated. Here the surface was granular and there was lying upon it a very offensive purulent secretion. The edges of the ulcers were elevated and at places extremely hard. When the finger was passed all round the mass close to the vagina, so as to gain access to that canal, this was found to be impossible. The vaginal mucous membrane was seen and found to be reflected on to the mass and to be continuous with it. The ulceration, too, was found to have extended towards the meatus urinarius, so that it was almost impossible to find that orifice. No fundus uteri could be felt in the hypogastric region. The case, therefore, was one of chronic inversion of the uterus, which had become malignant, and was not a uterine polypus which had taken on unhealthy action. My surgical colleague, Mr. Williamson, saw the case with me, but as the malignant ulceration had extended into the tissues around the meatus urinarius it was perfectly clear that the case was beyond operation. For the last nineteen years this large mass had protruded from the vagina and it had never been returned, for the patient sought no advice, being contented simply to support it with a napkin. The chafing thus induced had set up an epithelioma.

Ellison-place, Newcastle-on-Tyne.

A Mirror OF HOSPITAL PRACTICE BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

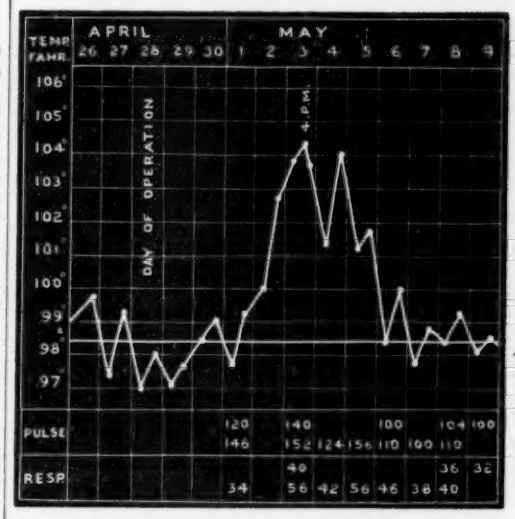
ROYAL VICTORIA HOSPITAL, NETLEY.

THREE CASES OF ABSCESS IN THE LIVER.

(From the Surgical Division.)

WE publish below notes of three cases of tropical abscess of the liver from the hospital which has probably the largest number of these cases to treat of any in the United Kingdom. They illustrate the mode of treatment which has been found to give the best results—incision and free drainage, with thorough antiseptic precautions, both at the time of operation and during the after-care of a case. The duration of the symptoms varied from two to three months and followed one or more attacks of dysentery, and in each case the collection of pus was reached by incision through an intercostal space, although the distance from the surface varied considerably.

CASE 1.—A soldier aged twenty-six was invalided from Kamptee on Feb. 28th, 1893, suffering from hepatitis. His habits were regular and his conduct and family history were good. He had served five years and a half in India. He suffered from ague at Quetta in July, 1888, the attack lasting eighteen days. In August, 1888, he had rheumatism, which lasted nine days. In July, 1890, he was in hospital for seven days with ague. Whilst at Poona in July, 1892, he was admitted to hospital with diarrhœa, from which he recovered in six days. In August, 1892, he had another attack of diarrhœa, which lasted for thirty-nine days. In the following September he was admitted for dysentery, the attack being of a mild character and lasting for twenty-two days; he was treated with ipecacuanha. In October he was again in hospital for twenty-nine days with dysentery, and in November he was admitted with ague, the attack continuing for twenty-four days. On Feb. 11th, 1893, whilst at Kamptee, he was admitted to hospital with pyrexia and tenderness over the abdomen. His face was drawn and anxious, the abdomen being tender and painful; the pain was relieved by deep pressure. The colon could be felt to be thickened. He suffered from diarrhœa at times, the stools being pale and sometimes streaked with blood. The liver was enlarged and there was much tenderness over it; the hepatic dulness extended from the fifth intercostal space to one inch below the costal margin in the nipple line. The edge of the spleen could be felt three-quarters of an inch below the margin of the ribs. He remained at Kamptee for seventeen days, being treated with ammonia and quinine. He was removed to Colaba, was embarked at Bombay and arrived at Netley on April 22nd. His condition at that date was as follows: He lay on his left side, complaining of pain over the hepatic area; he described the pain as being stabbing in character and running up to the right shoulder. The bowels were opened, the appetite was good. The general aspect was that of a patient in pain. The heart and lungs were normal. There was great tenderness over the region of the liver, the edge of which could not be felt, the liver dulness extending from the upper border of the fifth rib to one inch below the costal margin. There was some fulness in the axillary line, which was most noticeable in the eighth intercostal space, but no fluctuation could be detected. He was kept in bed, and was placed on convalescent diet and treated with anodynes and chloride of ammonium. On April 26th a very fine aspirating needle was passed into the eighth intercostal space in the mid-axillary line and some pus drawn off. A larger needle was then introduced and forty ounces of thick, laudable pus were drawn off with the evacuator. At the time of aspiration he was very wasted and anæmic, the eyes were sunken and the skin harsh and dry, and the expression was anxious and the voice husky; he weighed 7 st. 10 lb. (his normal weight was 10 st.); and he was troubled with a teasing cough without expectoration. On April 28th an incision about an inch and a half long was made over the abscess in the eighth interspace and about a pint of pus was evacuated. The cavity was irrigated with a solution of perchloride of mercury and a large drainage-tube was inserted. The wound was dressed with iodoform gauze and blue (alembroth) wool. The cavity of the abscess was very large and the abscess close to the surface of the liver; the depth of the cavity from the surface was fully five inches. The next day the patient was much easier. There was very little discharge. The cavity was irrigated with iodine water (one drachm to the pint). On April 30th the discharge was very slight. He had a little pain in the right side during the night of April 29th, which was relieved by the injection of morphia. On May 1st pneumonia developed; it attacked both bases and, as will be seen by reference to the accompanying chart, he had a very sharp



attack. His temperature touched normal on the morning of May 6th and it continued to be normal, or almost normal, until the evening of the 23rd, when 100° was recorded. As this was the day on which he was first allowed out of bed the rise was probably due to excitement. The attack was treated with ammonia; his diet was milk with arrowroot, jelly and eggs. He was at first placed on eight ounces of brandy a day, which

amount was gradually reduced from the morning of May 6th. On May 9th the discharge was bile-stained serum. On May 30th the patient was allowed out in the grounds on a wheeled couch. On the 31st the cavity was nearly closed, the discharge not being sufficient to moisten the two layers of gauze over the tube, which had been gradually shortened. He made flesh rapidly. The patient was so well on June 15th that he was discharged from hospital a day or two later.

CASE 2.—A soldier aged thirty, with nine years' service, had been quite healthy until his arrival in India, where he landed on Jan. 21st, 1892. Soon afterwards, when on the march to Chakrata, he was attacked with diarrhœa, which he attributed to a chill caused by lying on damp ground and to the drinking of unfiltered water. The motions were watery and colourless, and were accompanied by tenesmus. He was in hospital for twenty-one days and was then discharged to duty. Two months after his return to work he had a second attack, which was similar in character to the first. He passed nine or ten motions daily, the stools containing mucus streaked with blood. He was under treatment for a month. Six weeks later (about the end of June, 1892) he noticed that he was losing flesh; he had lost his appetite, suffered from nausea, had occasional diarrhœa and felt feverish at night. He was again admitted to hospital. In December, 1892, he was sent to Meerut and was invalided home from that station in January, 1893, with hepatitis. Whilst at Meerut he had a cutting pain in the region of the liver, was jaundiced for seven days and his stools were pale. He sailed from Bombay on March 3rd; he did not improve on the voyage, and had a second attack of jaundice, which lasted for six days. He was admitted here on March 28th; he then had pain over the liver and under the right clavicle, he suffered from nausea in the morning and pyrexia at night, his appetite was bad and he felt weak. There was considerable tenderness all over the liver. The liver dulness extended from the level of the fifth rib down to the umbilicus; there was some bulging in the seventh intercostal space just behind the mid-axillary line. His bowels were opened twice daily, the motions being natural. He was unable to sleep well on account of the pain over the liver. He was treated with chloride of ammonium and quinine, and turpentine stupes locally. On April 11th his evening temperature was 102°. The next day, as fluctuation was detected, an aspirating needle was introduced into the swelling in the seventh right intercostal space and twenty-seven ounces of thick, creamy yellow pus were removed. On April 14th the patient stated that he had felt less pain and had slept better since the aspiration. There was some bulging of the lower part of the chest wall on the right side. He complained of occasional nausea, which was most marked in the mornings. On the 15th an incision three inches in length was made in the seventh intercostal space parallel to the ribs, the centre of which was over the puncture made on April 12th. After cutting through the muscles a sharp-pointed director was pushed into the abscess cavity and the opening enlarged by a scalpel passed into the groove of the director. Three pints of pus, of the same character as that withdrawn by aspiration, were removed. The cavity was irrigated freely with a perchloride lotion (1 in 4000), two large drainage-tubes were inserted, some iodoform emulsion was injected into the cavity and the wound was dressed with iodoform gauze and blue (alembroth) wool. The patient's temperature just before the operation was 99·8°; in the evening it had fallen to 97°. He had some pain in the right side, which was relieved by an injection of morphia. On the following day (April 16th) there was little discharge; the cavity was irrigated with iodine water (one drachm to the pint), decolourised with carbolic lotion. The cavity was irrigated and dressed daily; there was little discharge. Both the drainage-tubes were shortened half an inch on April 20th. His general condition improved. On April 22nd he had diarrhœa (five loose, light-coloured motions in the twenty-four hours) and some tenderness over the liver was noted. He was given five grains of compound ipecacuanha powder, the dose being repeated after an interval of two hours. At this date the discharge from the abscess was less. The diarrhœa continued on the 23rd and 24th, when it was treated with injections of opium and starch, and powders containing ten grains of compound ipecacuanha powder and fifteen grains of carbonate of bismuth were given. The temperature since the operation had remained normal or subnormal. Up till April 30th his condition had steadily improved, but there was still some tenderness on pressure over the area of the liver; the discharge from the abscess was less. After April 26th the wound was dressed every other day and the drainage-tubes were gradually shortened. On May 4th the probe could be passed into the wound to the extent of three inches and a half. On the 9th a small drainage-tube three inches long was substituted for the full-sized one. On May 30th there remained only a small sinus two inches long, which just admitted a probe. The patient had gained considerably in weight and strength. He had been getting up daily for a fortnight, and since the 26th had been permitted to go into the grounds. On June 10th the wound was perfectly healed and the man looked strong and well; he was discharged to duty.

CASE 3.—A soldier aged twenty-five, with six years and ten months' service (four years and one month Indian service). His habits were temperate. He had an attack of dysentery at Cherat in May, 1891, which lasted for forty-eight days. In October, 1890, July, 1891, and September and October, 1892, he suffered from ague. When admitted for ague in October, 1892, he was kept in hospital for forty-three days. He was invalided for malarial cachexia. He had to wait twenty-eight days for transport and during that time suffered from violent pains in the right side and from fever. He was able to get about on the voyage home, but was in hospital part of the time. On arrival at Netley he had ague for one day and he was then able to get about for several days, but he was soon again attacked with pains in his right side. The following was his condition on April 28th (twenty-eight days after admission): The patient lay flat on his back and was unable to lie on either side owing to pain. The skin was moist and of a sallow earthy hue, presenting the characteristic appearance of malarial cachexia, the conjunctivæ being slightly jaundiced; fever of a hectic type was present, with morning remissions. The second sound of the heart was accentuated over the apex. On the right side the movement of the lower three or four ribs during respiration was impaired. The lips were cracked and dry, and the tongue was coated with creamy fur and marked by deep transverse fissures. The appetite was poor and in consequence of the fever the diet was chiefly of a fluid nature. There was a distinct bulging on the right side of the abdomen between the last rib and the crest of the ilium. There was marked tenderness over the right hypochondriac region and the skin over that area was slightly œdematous. The liver dulness extended from the upper border of the fifth rib to within three inches of the crest of the ilium. The urine was loaded with lithates. He suffered occasionally from frontal headache. On April 28th an incision about two inches long was made somewhat obliquely in the eighth intercostal space on the right side, the centre being about an inch and a half outside the right nipple. On deepening the wound muddy looking pus was met with and on enlarging the wound with the finger escaped in considerable quantity. A pint was collected. With the pus a white pellicle somewhat resembling a hydatid came away. It was white, friable and unilocular. No daughter cysts were found. The membrane was probably of inflammatory origin, arising from a localised peritonitis following the bursting of a superficial liver abscess. The abscess cavity seemed to be situated above the liver, between it and the diaphragm, the deepest portion of it being situated in the nipple line. There was considerable oozing from the deep part of the wound, which was stopped by irrigation with hot water. The cavity was irrigated with perchloride solution, a large rubber-tube was inserted, and the wound was dressed with iodoform gauze and blue (alembroth) wool. In the evening the temperature rose to 101·6°. The dressings were changed, as a considerable amount of oozing had taken place. Firm pressure was applied. On April 29th the temperature was 98·6°. The wound was dressed and the cavity syringed with a mixture of carbolic lotion (1 in 100) and tincture of iodine (2 drachms to the pint). The discharge was slightly offensive. The evening temperature was 103°. On April 30th there was still a good deal of discharge, but it was not offensive. There was only a little pain. The morning temperature was 99·6° and the evening temperature 100°. On May 1st the discharge was less in quantity and sweet, the patient being bright and cheerful. The morning temperature was 97·4°. From this time the temperature remained subnormal until May 9th, when 98·8° was registered. It fell on the morning of May 10th to 97°. (It remained subnormal or normal until complete recovery had taken place.) On May 3rd a smaller drainage-tube was inserted. On the 5th it was noted that the amount of discharge was gradually decreasing and on May 7th that the patient was gaining flesh. He was on a

milk and beef-tea diet until May 7th, but on that day he was given roast chicken. On May 10th and 17th the drainage-tube was shortened, the wound being dressed and irrigated as usual. On May 20th the patient was allowed to get up for a short time; the discharge then amounted to only two or three drachms daily. The sinus was noted as being two inches and a half long and as not leading into a cavity. On May 25th the lower border of the liver could no longer be felt below the ribs; the length of the drainage-tube was only two inches and of the diameter of a crowquill. On June 15th it was noted that the patient was to be discharged from hospital in a few days' time.

LEEDS GENERAL INFIRMARY.

LIGATURE OF THE EXTERNAL ILIAC ARTERY FOR ANEURYSM BY THE TRANS-PERITONEAL METHOD.

(Under the care of Mr. W. H. BROWN.)

WE publish below the notes of the case to which we referred in December[1] of last year, when commenting on the trans-peritoneal method of applying a ligature to the external iliac artery in cases of aneurysm. It differs from other recorded cases treated by this method in that there were two aneurysms on the same artery and because, on account of the position of the inguinal one, the incision had to be made in the median line instead of in the linea semilunaris on the corresponding side. From the extreme stoutness of the patient and the position of the incision much difficulty was experienced in reaching the artery. The other cases recorded are: one under the care of Mr. Banks of Liverpool, in which he ligatured with success the artery on the right side; another under the care of Mr. Makins, who ligatured the artery on the left side with a result equally satisfactory as regards cure of the aneurysm. This latter patient has again been under treatment for aneurysm of the other side, and we propose to give an account of the case and of the operation in an early number of THE LANCET. For the notes of this case we are indebted to Mr. J. G. Rowell, house surgeon.

A woman aged forty-eight was admitted to the Leeds General Infirmary on Sept. 22nd, 1892, suffering from aneurysms of the femoral artery. The first (the size of a large cocoa-nut) was situated in the right groin, extending upwards above Poupart's ligament; the second and smaller tumour occupied the middle third of the same (right femoral) vessel. The skin over the upper tumour was dark, very thin and threatened to give way. The posterior tibial artery could be felt pulsating very feebly, the veins over the dorsum of the foot were deeply outlined, and there was some œdema. The position of the upper aneurysm prevented any of the usual operations being performed, and it was decided after consultation to ligature the external iliac artery through a median incision. On Sept. 25th, 1892, ether having been administered, the abdomen was opened in the middle line between the umbilicus and the pubes. The incision was at first four inches in length, but subsequently increased to six inches, owing to the great depth of the fat in the abdominal wall. The omentum was also very thick and greatly embarrassed manipulation. It was only after the pelvis had been well raised and emptied of the small intestines that a view could be obtained of the vessel. After ligature pulsation ceased at once. The portion of the vessel tied was quite healthy. So far as the abdominal conditions were involved the woman made a good recovery; beyond a little suppuration round one of the stitch holes there were no drawbacks. The foot and leg, however, subsequently became gangrenous, and the thigh was amputated in the middle third. The patient lingered till Dec. 11th, when she sank. The necropsy showed the two separate aneurysms to be "true"; the lower one contained firm clot, the upper one was filled with dark liquid blood which did not clot. The vessels elsewhere were natural, as also were the organs generally.

Remarks by Mr. BROWN.—Several instances of trans-peritoneal ligature of the external iliac artery have of late been put on record, and the general belief of those who have operated by this method appears to be that it is an easy procedure. I can only say that in this instance I had the greatest difficulty in obtaining, first of all, a view of the vessel, and, secondly, in passing the ligature. The patient was a very stout woman and the vessel was at a great depth from the surface; further, crossing the artery at right angles were three or four very full veins. When I saw them I felt that if wounded they would considerably hinder the operation by surrounding the vessel with blood. I quite think that this method of ligature is the one to be generally adopted; at the same time my individual experience does not coincide with that of others as to the facility with which it can be performed.

[1] THE LANCET, vol. ii. 1892, p. 1328.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

Exhibitions of Specimens.—Longings of Pregnant Women.—Absorption of Fibroid Tumours of the Uterus.

A MEETING of this Society was held at 20, Hanover-square on the 7th inst., Dr. G. E. HERMAN (President) in the chair.

The following specimens were shown:

Mr. A. DORAN: Fœtus found in Abdominal Cavity.

Dr. HANDFIELD-JONES: Fibroid of Broad Ligament.

Dr. AMAND ROUTH: (1) Calculus with Half a Bodkin as Nucleus; (2) Anencephalic Fœtus.

Dr. POLLOCK: Placenta Prævia.

A paper was communicated by Dr. GILES on the Longings of Pregnant Women. "Longings" fall into two ancient divisions according as the objects longed for are (1) natural and healthy or (2) unnatural or unhealthy. The former class is here alone considered, the data being based on particulars of 300 cases. The popular view of longings here stated and the principal foods longed for are tabulated in order to ascertain the relation between sickness and longings in general, and various classes of foods in particular. Three explanations of the cause of longings were given: 1. That they are due to a desire for something to check the feeling of nausea. This applies especially to sour things. 2. That they are the expression of an instinctive want for some class of food in the altered condition of pregnancy. 3. Dr. Giles thought that in many cases they are due to a kind of auto-suggestion prompted by a popular tradition and gave evidence in support of this view. He showed that the frequency of longings markedly decreases as parity increases. The subject, he thought, was important from the point of view of the feeding of infants.—Mr. A. DORAN said that the tradition was ancient and deeply rooted so that for ages women had expected to "long" and had done so accordingly. Marlowe and Fielding had pointedly referred to the tradition in "Doctor Faustus" and the "Life of Jonathan Wild" respectively.—The PRESIDENT said that the long-continued belief in the existence of these longings was evidence enough that there were such things, and the question was, Are these longings merely whims and vagaries, or are they genuine indications of a physiological need? He thought that Dr. Giles' paper showed that they might be of both kinds. The great preponderance amongst the things longed for of things containing vegetable acids seemed to him to strongly suggest that these things might be in some way beneficial and that the longing for vegetable acids was the expression of a physiological need.—Dr. GILES, in reply, said that he used the term "auto-suggestion" in the sense in which it was used in works on hypnosis; just as in "suggestion" one person influences the beliefs and feelings of another, so in auto-suggestion a woman, starting with the feeling induced by the conversation of her friends that she ought to feel certain cravings, unconsciously persuades herself till she actually experiences these cravings. He only suggested this, however, as an explanation of a certain number of the longings met with—others had no doubt a more physiological basis.

A paper by Mr. A. DORAN on the Absorption of Fibroid Tumours of the Uterus, with a report of a Suspected Case, was next read. A woman aged forty was admitted into hospital under his care on May 9th, 1890. About three years previously a lump was felt in the left iliac fossa. It never disappeared and gave rise to dragging pains when she walked about. Thirteen weeks before admission she was seized with abdominal pains and dysuria. A fortnight before admission she fell down, receiving a heavy blow on the tumour. Severe abdominal pain and fever followed. On admission a solid, very hard mass was detected; it filled the left iliac fossa and reached upwards to the left above the umbilical level. The os uteri lay close to the pubes; the cervix was almost absorbed in the tumour, which bulged far

down in the pelvis behind the vagina. The mass was fixed. After three weeks' rest and appropriate treatment the tumour moved freely. A second lobe was detected to its right, reaching half-way to the umbilicus. On Feb. 10th, 1891, the tumour was again examined by Mr. Doran. It could just be felt above the pelvic brim to the left, and no longer extended downwards behind the cervix. A discharge of fetid fluid occurred in August, 1890, and since then the tumour had steadily diminished in size. On Nov. 25th, 1892, he once more examined the patient. There was no trace of any tumour. The uterus was freely movable; its cavity measured three inches and a half. Mr. Doran believed that this case was an instance of the absorption of a uterine fibroid tumour before the menopause. The injury provoked inflammation, which was followed by impaction, then by resolution of the inflammatory products and finally by slow disappearance of the tumour. He had collected thirty-seven cases of disappearance (not always complete) of uterine fibroids and drew conclusions from their study.—Dr. DUNCAN agreed with Mr. Doran that uterine myomata sometimes spontaneously disappeared before the onset of the menopause. He mentioned the case of a woman aged thirty-three, who consulted him two and a half years ago. She was suffering from severe metrorrhagia, was very thin and anæmic, and said that her abdomen had been rapidly enlarging for three months before her visit. On examination a soft central tumour was felt reaching up to the umbilicus; bimanually it was continuous with the uterus; the sound passed four and a half inches. Abdominal section was performed as the woman's condition was so serious, but the tumour was everywhere fixed to the surrounding organs by adhesions which bled profusely on attempting to break them down, so the hæmorrhage was arrested and the operation of removing either the tumour or the uterine appendages was not proceeded with. The patient again consulted Dr. Duncan a year ago looking much improved and on examination he found, to his intense surprise, that the tumour had altogether disappeared and that the uterus was of normal size. He had at the time of operation diagnosed the case as one of sarcoma uteri, and he was at a loss to explain the disappearance of the tumour.—Dr. GRAILEY HEWITT had met with two cases in which uterine fibroids had disappeared apparently by absorption before the menopause.—Dr. LEWERS mentioned the case of a patient to whom three or four years ago he had given four applications of electricity without any benefit. The patient was now much better and attributed the improvement to the treatment adopted, but as she was now forty-seven years old he himself thought it more likely that her improvement was due to the approach of the menopause.—Mr. SKENE KEITH having made a few observations, Mr. DORAN said he was interested in Dr. Duncan's case, which resembled von Mosetig's. Most fibroid tumours did not disappear after exploratory operations and the phenomenon was certainly rare. Dr. Grailey Hewitt's two cases were of value, especially as it appeared that the patients were both under forty. Dr. Lewers' observation was important; it would come under the qualifications which applied to Series 4 in his tables, the patient being over forty-five, so that the share in the diminution of the fibroid tumour which might be allowed to Apostoli's treatment four years previously remained problematical.

Reviews and Notices of Books.

Aberdeen Doctors at Home and Abroad: the Narrative of a Medical School. By ELLA HILL BURTON RODGER. Edinburgh and London: William Blackwood and Sons. 1893.

IF Aberdeen is an "arida nutrix," she is also a "nutrix leonum"—and that in no faculty more conspicuously than the medical, as the present volume amply proves to us. Mrs. Rodger writes with hereditary enthusiasm of the "granite city" and its sons, and with something, too, of the hereditary shrewdness and vigour. Her style, however, is unequal, and whilst we pass pleasantly over pages altogether admirable for ease and pictorial power we are not seldom disagreeably surprised by seeing on others slovenly colloquialisms or by *stuonature*, as the art critics say, of thought as well as expression. Still, the book, as it well merited to be written, deserves also to be read, if only as presenting to us a noble "march past" of medical heroes, each of whom was in himself a type of hardy independence and sagacity and all of whom combine to form a company in the army of medicine inferior to no other in the annals of that most humane of services.

Some notion of the stern conditions in which the medical art was fostered in the Aberdeen of the Renaissance period may be formed from the fact that Edinburgh, as a contemporary seat of learning, was, with all her semi-savage culture and manners, looked up to by her northern sister as Edinburgh herself used to regard London—as the centre, that is to say, of a refinement and civilisation to be envied and imitated, but far removed from competition or even criticism. Mrs. Rodger, in her introductory chapters, gives us some graphic sketches of the academic life of those primitive times when anything that was scientific or lettered was imported from abroad. The travelled Aberdonian brought back from Italy, from Germany, from the Netherlands and from France ideas and methods which took not unkindly to the rude Caledonian soil and in process of time developed and expanded, whilst forming a character of their own which gradually became less foreign and more local until their source was lost in the new growth into which they were moulded or transformed. This process continued till, in the eighteenth century, a distinct and strongly individualised academic life was started; and 1789, the year of the French Revolution, witnessed the first beginnings of a school of the healing art in the Medical Society founded by twelve young students from Marischal College.

Almost pathetic, whilst profoundly interesting, is Mrs. Rodger's narrative of the development of that society of enthusiasts in their teens, too poor to rent a room of their own and meeting at stated intervals in the houses of their parents; but from this, as from a fountain-head, flowed the stream of Aberdonian precept and practice, till hardly a shore of the vast ocean of medicine remains untouched by its contributions. In chapter after chapter we are led on from point to point in the history of the school, given in that most effective of all ways—the biographies of its typical sons. The Gregory family have one of these chapters to themselves, and we read that about the year 1745, the year of the last Jacobite Rebellion, Rob Roy, who was hiding in Aberdeenshire, visited his cousin, Dr. John Gregory, the "mediciner of King's College." Rob, who was as proud of his own "profession" as the doctor was of his, seeing the latter's son, young James Gregory, afterwards the famous author of the "Conspectus Medicinæ," offered to take him to the highlands and "make a man of him." But the doctor, horrified at the notion of his bright boy becoming a "stoutrief," was relieved when one day, walking arm-in-arm with Rob Roy in the Castlegate, he saw a troop of soldiers marching to the beat of the drum from the barracks. "If those lads are stirring," said the freebooter, "I had better be off"; and, disappearing down a close, he was never seen again in the "granite city." A digression takes us afterwards to the Edinburgh Medical School, then rapidly developing to distinction under Dr. Cullen and the Monros, and here Mrs. Rodger passes in review the outstanding figures of the profession till well on into the present century, dwelling with special minuteness and effect on Dr. James Gregory and Dr. John Abercrombie—both Aberdonians. This is followed by an equally interesting chapter on the London Medical School, also deeply influenced by the northern, particularly the Aberdonian, element, of which Sir Walter Farquhar was a characteristic specimen. Then comes what in some respects is the gem of the volume—the portrait of the "staff-surgeon, Sir James McGrigor, Director-General of the Allied Armies Medical Department in the Peninsular War." Vividly dramatic situations are put before us in which Sir James McGrigor comes in contact, not invariably amicably, with the Iron Duke and wrings from the latter the most genuine

admiration for his sagacity, energy and sleepless devotion to duty. Sir James McGrigor was *inter alia* the originator of the "Army Medical Report"—the first document of the kind being due to his pen; but, proud as all Aberdonians are of him, their pride becomes affection when they consider the good he did to their common *alma mater*. He was one of the original members, as a boy, of the Medical Society out of which the school rose, and till his dying day he never ceased to keep the interests of Marischal College and the city as a whole in active remembrance. "Si monumentum requiris, circumspice!" his shade might be supposed to whisper, looking round with just satisfaction on the Society's hall and the academic life of which he was so vital a promoter.

The Aberdonian practitioner or consultant, in his strictly professional capacity, comes before us in a rich variety of types, of which, however, we can only indicate a few—such as Dr. Milne of Bombay, Dr. Neil Arnott (*par excellence* the metropolitan physician), and others more local in their career, for example, Dr. James Moir, Dr. George Kerr, Dr. Robert Harvey, Dr. Colin Allan, Dr. Ninian Bruce, Dr. John Murray, and Dr. Brown of Skene-square, all "early members of the Aberdeen Medical Society." Over these, as also over the old county practitioners, the "Gideon Grays" of Aberdeenshire—we may not linger, except to take note of one, Dr. Francis Adams of Banchory, the great medical scholar. This most accomplished and exemplary man was a true son of Aberdeen in culture and association, though, as Mrs. Rodger tells us, he "took the London 'degree'" (she means "diploma") "of the College of Surgeons." A hard-working general practitioner, he yet found time to carry the early initiation he had received in classics to a rare degree of perfection, until he shared with Dr. W. A. Greenhill the honour of being the most learned authority on Greek and Roman medicine in the British Isles. Mrs. Rodger's account of him is singularly defective, and no one would learn from it one tithe of his masterly contributions to our knowledge of Hippocratic and post-Hippocratic literature. He not only translated, but—a far more honourable feat—he constituted, the text of Aretæus (whose name Mrs. Rodger continually misspells), and his edition of that exquisite writer and great physician, executed for the Sydenham Society, remains the best yet produced by the republic of letters. He was also an accomplished versifier in Greek and Latin, and his "Arundines Devæ" (not "Divæ"), revived, not unsuccessfully, the branch of literature in which George Buchanan and Arthur Johnston surpassed contemporary Europe. We trust a second edition will do to this really exemplary and interesting man something of the justice Mrs. Rodger does to Dr. Kilgour—equally eminent, though in a different way. But here we must draw rein. In spite of deficiencies, rather accidental than organic, Mrs. Rodger's "Aberdeen Doctors" is one of the most fascinating books of the season and will prepare the world for a more thorough appreciation of the school at which they graduated when the fourth centenary of its founding comes to be celebrated next year.

Guide to Health in Africa, with Notes on the Country and its Inhabitants. By THOS. HEAZLE PARKE, Hon. D.C.L. Durh., Hon. F.R.C.S.I. &c. &c., Surgeon-Major, A.M.S., late Medical Officer to the Emin Pasha Relief Expedition, with Preface by H. M. STANLEY. London: Sampson Low, Marston and Co., Limited. 1893.

THE author of this book is sufficiently well known for his exceptional experience and the personal hardships that he underwent in connexion with the Emin Pasha Relief Expedition to be eminently qualified to speak upon the subjects about which he writes. He has acquired his knowledge during five years' service in Subtropical and three years' service in Equatorial Africa. The first sixty pages are devoted to the African continent, its geographical and topographical features, its climate and meteorology, its natives and its flora and fauna; and the remainder of the volume is taken up with the diseases and injuries incidental to the African climate and to expeditions into that country. Whilst the climates of the extreme north and south—the Mediterranean and Cape Colony zones—of the continent of Africa are universally allowed to be healthy, there are, says the author, a great many objectionable features in the climate of the intermediate portion, which includes the great bulk of the continent. It is only in the comparatively low-lying desert regions, however, that the temperature becomes at all intolerable. The temperature of the equatorial zone of Africa, where the low level of the coast-belt has been passed, is decidedly moderate, on account of the high level of the interior. Cases of sunstroke are very rare. Surgeon-Major Parke says that he has seen more cases of that affection during one "field day" at Aldershot than during seven years' medical experience of Subtropical Africa. The great enemy of Central African life is undoubtedly fever. All suffer from it, both the black and white races. The most fruitful cause of the development of African fever is chill. "As we crossed the equatorial belt of Africa every-one who got a wetting, whether by rain or by submersion in a lake or river, or who was exposed to a chilly breeze after perspiration, developed fever as an immediate consequence. Beasts as well as men suffered." We notice that the author's experience is decidedly favourable to the prophylactic use of quinine, and in this he coincides with most medical authorities; but it will be remembered that Sir Anthony Home in his medical report on the Ashanti expedition expressed a strong opinion to the contrary, founded upon his experience on that occasion. There is a little practical point which we may, *en passant*, notice in connexion with the cold stage of ague, and that is the relief which a patient may often derive from sipping hot tea in considerable quantities, but it must be as hot as can be borne. It tends to accelerate the appearance of the sweating stage and relieves the patient's thirst and discomfort in the meantime, although it is not, of course, curative. As regards that part of the book—the *raison d'être* of its publication—which deals with the diseases of Africa, together with excellent advice and practical suggestions on the preservation of health in the tropics and on such subjects as the articles to be taken on an expedition, cooking, transport &c., we need scarcely add that the work affords within a small compass a good deal of information that is at once useful and reliable. We cannot conclude our brief notice without calling attention to the concluding paragraph of Mr. Henry M. Stanley's preface to this volume. Mr. Stanley says that "it is one of the oddest things that Surgeon-Major Parke, who performed such splendid services in Africa and won such general commendation from his white and black companions, should have remained to this day so little appreciated by the Government he serves and the Service which he adorns as not to have received one word of thanks or decoration or acknowledgment from either of them." We are aware that decorations and rewards are only bestowed for, and that official recognition is only taken of, services that have been rendered to the State and come within the terms of prescribed regulations; but Surgeon-Major Parke's services were of a very exceptional nature. They showed that he possessed qualities which Englishmen are proud to honour, for he manifested courage, enterprise and devotion and underwent expatriation, suffering and hardship in a cause and on an expedition of great importance and difficulty; and we agree with Mr. Stanley in thinking that there surely must be some distinction which could be given to such a man as an indication that England as a nation knows how to honour such qualities.

Galenic Pharmacy: a Practical Handbook to the Processes of the British Pharmacopœia. By R. A. CRIPPS, Fellow of the Institute of Chemistry. London: J. & A. Churchill. 1893.

IN his title the author has scarcely been fair to his labours; his thoroughly practical book extends far beyond the limits of the British Pharmacopœia, and although this fact is fully set forth on the title-page in a somewhat lengthy explanation of the scope of the book it is to be feared that the reference to the Pharmacopœia in the first two lines may give rise to some misconception. This is much to be regretted, for although there is ample room for explanation of the processes of the British Pharmacopœia this book goes a good deal beyond this limited range in dealing with many of the processes of pharmacy which, though in daily use, are nevertheless ignored in the official standard—e.g., the various methods of pill-coating, the preparations of compressed tablets, of pastilles and of surgical dressings, and many other non-official preparations. Mr. Cripps rightly considers that it should be the object of every pharmacist to prepare each drug so that its medicinal activity may be presented in its most potent, palatable and digestible form; and, although this object can only be satisfactorily attained by dint of much practical experience, it is doubtless the fact that most of the text-books rather gloss over many simple and useful facts which are to be found here fully set forth. The method adopted in this book may be gathered from the following analysis of the chapter on evaporation. Explanations are first given of the differences between, and the special significance of, the terms "evaporation," "desiccation" or "exsiccation," "distillation" and "sublimation," the last three being reserved for more detailed consideration in subsequent chapters. The influence of the temperature on the rate of evaporation is next explained, and, after a detailed account of the latent heat of steam, the sources of heat commonly employed are described, with useful hints on the construction of the steam bath. The influence of pressure on the boiling point leads to a description of the apparatus in use for evaporation under reduced pressure and also to an account of the construction and manipulation of a vacuum pan; a list is then given of several official preparations which are prepared in accordance with the processes described, and in smaller type some very useful notes are appended explanatory of the methods and precautions to be adopted in each case. At the end of the chapter are several examination questions which enable the student to test the accuracy of his reading. It will be seen from the above that this chapter, selected almost at random, comprises a great deal which might be gathered from works on physics, chemistry or even from the Pharmacopœia, but it is distinctly an advantage to have this material reset with many practical hints and with full illustrations of apparatus. It is needless, and indeed impossible in the space at our disposal, to give a detailed account of the contents of this book. It must suffice to say that a careful perusal has led to the conviction that the book is one which is well adapted to the needs of the student of pharmacy, while those who dispense are likely to find in it many valuable suggestions which will save time, trouble and material.

Stazioni Balneari e Climatiche nel Trentino, di Ottone Brentari. Publicato per cura della Società per l'Incremento del Concorso di Forestieri nel Trentino. Bassano. 1892.

THAT part of "Italia Irredenta" (or Unreclaimed Italy) which is known as the Trentino is beyond doubt one of the most beautiful tracts of the southern slopes of the Alps. It enjoys a gradation of temperatures and climates from the snow-capped peaks of the Adamello and the Marmolada to the low-lying plains through which the Adige and the Brenta hurry to join the Po on its seaward pilgrimage—in Dante's exquisite touch, "per aver pace." It owns the northern extremity of the largest and in some respects the loveliest of the Italian lakes—the Lago di Garda—celebrated by Catullus and Virgil; and in addition to every possible attraction of land and water and sky it has the special interest for the medical man of being exceptionally rich in mineral springs, not only as regards their number and volume but as regards their chemical constituents. There are the ferruginous sources of Breguzzo, Bresimo, Cavelonte, Mocenigo, Pejo, Rabbi, and Serraja; the ferroso-saline of Brentonico; the acidulated salino-ferruginous of Campi and Fontanino; the calcareo-magnesiac of Carano, of Pontara and of Sella; and the arseniate of iron and copper springs of Levico and Roncegno. Hardly one of these mineral-water resorts is without its special charms of situation and scenery, and all of them are at the very threshold of what has been called a "true land of promise" for the mountaineer, rich in "points of pilgrimage" for the nature-worshipper and in delightful and health-giving excursions for the less adventurous. With all this, the Trentino is in great part a *terra incognita* to the professional tourist—a fact which is mainly due to the want of a trustworthy and convenient guide to its treasures and attractions. Italy is herself to blame for this blank in her "literature of travel"—not till the other day, indeed, has she had the enterprise to construct a guide-book to the Trentino on the lines of Baedeker or Gsell-fels. But she has completed it at last, and it lies before us in Signor Ottone Brentari's lucidly detailed and flowingly written volume, rich in plan and picture and full-page illustration for the behoof of the non-Italian visitor. Such of our readers as intend to assist at the International Medical Congress which will meet in Rome three months hence might do worse than take the Trentino on their journey out or on their return and, whilst refreshing eye and mind with delicious landscapes or with strikingly bold and sombre effects of Alpine scenery, add to their professional resources by making a round of the resorts above enumerated, the medical consultants at which would (as we can vouch from experience) be only too glad to show them every attention in familiarising them with the special virtues and indications, *pro* and *contra*, of each individual spring. With this object in view Signor Brentari's guide (equal in bulk to a moderate-sized "Baedeker," though printed in larger type and richer in illustrations) would be a valuable adjunct to the *impedimenta*. We have tested the volume by its account not only of such comparatively well-known springs as that of Levico, which is exhaustively described in some ten pages, but also by the information it gives of Roncegno, of Sella and of Comano—resorts worthy of far wider recognition than has yet been vouchsafed them. The last-named spring is of special interest, as its effects have been known and appreciated from early Roman times and specimens of it have been awarded medals at balneary expositions held at various periods and places. But its composition has not yet been quite made out, and it has in consequence evoked a literature, in analytic and therapeutic monographs, almost as copious as the mysterious waters themselves.

Clinical Lectures on Abdominal Hernia, chiefly in relation to Treatment, including the Radical Cure. By WILLIAM H. BENNETT, F.R.C.S., Surgeon to St. George's Hospital. With twelve diagrams. London: Longmans, Green & Co. 1893.

SEVERAL of these lectures have already appeared in our pages and our readers are therefore familiar with them. Hernia has always been a favourite subject for surgical clinical lectures. In no other surgical affection is there such a wide range of individual variation; rare and unexpected combinations and complications are often met with, and it is well known that the most experienced operator does not meet with two cases of strangulated hernia precisely alike. Eight of these lectures are devoted to a discussion of some of the

more important complications of strangulated hernia and of certain anomalies the author has met with in his practice. Mr. Bennett has incorporated the histories of several excellent illustrative cases, but has avoided the error of overloading his pages with too many and too copious notes of cases. He has met with some very interesting examples of valve-like folds in hernial sacs which have shut off the sac into compartments and have also formed an obstacle to reduction of the hernial contents when there was no strangulation. In cases of strangulation early operation is of course recommended, and he has not met with a case of gangrenous hernia in which he has felt justified in attempting excision of the bowel and suture of the two ends. Operation for radical cure is advocated and special stress is laid upon complete obliteration of the sac without leaving any dimple on the inner surface of the abdominal wall. The author is opposed to all methods involving laying open the inguinal canal. The subjects discussed are full of interest, and Mr. Bennett treats them all practically and soundly.

A Medical Handbook for the Use of Practitioners and Students. By R. S. AITCHISON, M.B., C.M., F.R.C.P. Edin., late Medical Officer, Out-patients Department, Royal Infirmary, Edinburgh, and Physician, New Town Dispensary, Edinburgh. With numerous illustrations. London: Charles Griffin and Co., Limited. 1893.

IN these days, when medical treatises are multiplied and medical writings abound, the busy practitioner feels the need of a work of carefully selected and well-arranged matter for ready reference in relation to the practical diagnosis of disease, and the medical student attending lectures and reading the larger treatises and text-books also requires all the aid he can obtain from condensation and classification in order to retain and revise from time to time the knowledge he has acquired by dint of previous hard work. The field of medicine is so wide that even the best informed may at the moment miss the salient points and fail to grasp the meaning of the phenomena presented by different diseases as he has to encounter them in practice. He has to refresh and revise the knowledge he already possesses and to learn at the same time to focus his mind on those things which are essential or important and to discard the rest. The description of disease rarely, if ever, possesses the accuracy of a photograph. The observer has to make his selection of the points that are really pertinent and group them so that a true picture may be obtained. In trying to unravel the intricate problems of disease much time and labour are saved if we can only obtain a clue. For these and similar reasons the publication of handbooks like that under notice is not only justified but really necessary. We have carefully gone over this medical handbook for the use of practitioners and students. It is honestly executed and we can speak highly of it. A scientific spirit and standard have been maintained throughout which put it upon a higher plane than a mere compilation of condensed information. The classification of the diseases is entirely clinical. They are discussed in groups, with the consideration of the comparative diagnosis appended. The sections on diseases of the nervous system strike us as especially good, together with those on the circulatory and respiratory systems and on the urine and diseases of the urinary system. The work, which is excellently got up, consists of 347 pages. It is handy and portable, well adapted for facility of reference and furnished with a good index.

Decipherment of Blurred Finger Prints. By FRANCIS GALTON, F.R.S. Being a Supplementary Chapter to "Finger Prints." London: Macmillan. 1893. Pp. 18, with Fifteen Plates.

WE recently had occasion to notice Mr. Galton's work on "Finger Prints,"[1] in which he showed the value of impressions of the pulps of the fingers made with suitable material in enabling identifications of different persons to be made; for he has found that the ridges which characterise this part of the skin present certain well-marked general features which may be classified into the arch, loop and whorl, and that, in addition, the blending or the division of the ridges and their anastomoses, if they may be so termed, differ in each individual. He has now had an opportunity of comparing some finger-prints obtained from natives in India in 1878 with those of the same natives taken last year, and therefore at an interval of fourteen years. Many such impressions were taken from natives of India by Sir William Herschell and some of them have been preserved. The method of taking the finger prints in 1878 proves to have been much less satisfactory than the plan adopted more recently, for some dye was used in the former instance, whilst Mr. Galton recommends a thin layer of printer's ink. The outcome of the comparison of the two sets of impressions is strongly in favour of the persistence and unchangeability of the ridges, for there were absolutely no points of disagreement even when compared under sevenfold enlargement. Mr. Galton has been informed that the practice of taking the impression of a single digit of criminals is now constantly adopted by the Bengal police. It is clear that it is a very valuable aid to identification of an individual.

[1] THE LANCET, Jan. 14th, 1893.

History of the Life of D. Hayes Agnew, M.D., LL.D. By J. HOWES ADAMS, M.D. Philadelphia and London: The F. A. Davis Company. 1892.

THIS biography is written by an intimate and attached friend of the late Dr. Agnew, who has had access to the very best sources for all details of his private life. The surgeon's career is sketched with much fulness from early life to its close, and in addition to his professional work and characteristics we find very full information concerning his home life and private relations. Dr. Agnew held a very high place in the profession in America. He was a man of high character and charmingly simple life; an indefatigable worker and one who devoted himself to the alleviation of suffering with whole-souled enthusiasm. His work on Surgery is a monument of industry. His experience and skill were of great national service in the case of President Garfield, and he thoroughly merited the trust placed in him. The work before us is, perhaps, too persistently eulogistic; but Dr. Agnew's friends will forgive this, and it was no doubt mainly for them that the biography was written.

Analytical Records
FROM
THE LANCET LABORATORY.

MARZA TONIC WINE AND MARZA MEAT AND MALT WINE.
(THE MARZA MANUFACTURING COMPANY, LIMITED, 19 AND 21, WILSON-STREET, FINSBURY, E.C.)

GOOD WINE, it is well known, affords an excellent vehicle for the administration of many valuable medicaments, but considerable skill is often required to obviate the effects of incompatibility. The bulk of the iron salts, for example, will not mix satisfactorily with wines, because a reaction occurs between the normal tannin of the wine and the iron of the salt, so that on mixing an inkiness results. This difficulty appears to have been overcome in the Marza tonic wine not only as regards iron but also as regards the principles of the coca leaf, phosphorus and pepsin; for on careful examination the presence of these or of their representative constituents was traced. The iron is evidently combined with an organic acid in view of the results of the tests we applied. Cocaine, though in small quantity, was readily extracted by ether, as

was also a pungent principle (capsaicin), which is probably derived from capsicum. In spite of its medicated character the wine is agreeable to the palate and is doubtless valuable not merely as a stimulant but also as a tonic. On analysis the following results were furnished: Alcohol by weight, 12·31 per cent.; by volume, 15·21 per cent.; equal to proof spirit, 26·66 per cent.; extractives, 13·51 per cent.; mineral matter, 0·24 per cent. The mineral matter was decidedly brown from the presence of a considerable quantity of iron. The formula of this wine is a commendable one and thoughtfully planned.

"Marza meat and malt wine" contains no added iron, but its value is increased by the addition of the extractive constituents of malt, meat and coca. The presence of these bodies received confirmation to some extent from the following particulars of analysis. Ether extracted a tolerable quantity of cocaine, recognised by its numbing effect upon the tongue, as well as by its characteristic appearance under the microscope when converted into hydrochloride. The mineral matter consisted largely of soluble phosphates, derived equally from the malt and meat, together with a small proportion of common salt. The total extractives were found to contain 4·40 per cent. nitrogenous matter, equivalent to 0·7 part of nitrogen. The alcoholic strength was equal to 13·15 per cent. by weight, 16·24 per cent. by volume, and proof spirit 28·46 per cent. The extractives amounted to 12·02 per cent. and the mineral matter to 0·36 per cent. The wine possesses the good full flavour of a sound port and affords a very palatable form of an excellent nutritive and stimulant.

IZAL, A NEW NON-POISONOUS DISINFECTANT.

(NEWTON, CHAMBERS & CO., THORNCLIFFE, NEAR SHEFFIELD.)

Izal is a new and interesting body isolated from an oil which is described as occurring in the coke ovens of the Thorncliffe collieries. Its antiseptic power appears to be considerably greater than that of carbolic acid, whilst it is practically non-poisonous. At any rate it exerts nothing like the poisonous action of carbolic acid and, according to Dr. Klein, is without injurious effect upon the economy unless taken in unreasonably large quantities. Dr. Klein has conducted a large number of experiments with this substance with the view of ascertaining its value as a disinfectant and germicide. Some twenty-five species of microbes were experimented with, and the results were highly satisfactory and such as to compare most favourably with similar experiments with well-known members of the disinfectant group. The preparation submitted to us for examination consisted of a milky emulsion, doubtless produced from the oil referred to, which was markedly alkaline to test paper and from which a mixture of oily bodies separated on the addition of acid and on warming. The oils so separated occupied about half the original volume of the liquid. On treatment with ether a limpid, clear brown oil smelling strongly of cresylic acid was obtained, which gave a prune-juice colour with potash, a blue colour with perchloride of iron, a bromine derivative with bromine water, and a dirty colouration with solution of chloride of lime. Izal, therefore, though not containing any appreciable quantity of true phenol, probably contains a small but certain proportion of phenol homologues. The separated oil, however, was not entirely soluble in ether, for a sticky resinous substance remained which appeared to dissolve in benzol and in petroleum ether; it formed an emulsion with water and was slightly soluble therein, but it gave no reaction with potash, chloride of iron &c. This oil would appear to be a hydro-carbon. Izal mixes well with water, has an agreeable smell, leaves no objectionable greasy stain, and is entitled to rank amongst the foremost disinfectant and antiseptic preparations which are at the present time available. An original article by Mr. W. Bruce Clarke detailing his experience of this antiseptic in certain surgical cases will be found in another column.

MORSE'S GLYCEROLE OF CELERY COMPOUND.

(AGENTS: BURGOYNE, BURBIDGES, CYRIAX AND FARRIES, 12, COLEMAN-STREET, E.C.)

Each fluid drachm of this preparation is stated to contain the equivalent of "celery seed, 4 grains; catnip herb, 5 grains; chamomile, 2 grains." We have carefully searched for opium principles and chloral, but failed to obtain the slightest evidence of the existence of either. These hypnotics were especially sought, since the preparation is described as a pleasant substitute for opium and other similar drugs in the treatment of children teething and in adults suffering from nervous prostration. It is very sweet and pleasant to the palate, the characteristic flavour of celery seed predominating. Alcohol and glycerine were both recognised, whilst the residues obtained in the evaporation of solvents like chloroform and ether, which had been shaken with the preparation, evolved a similar but more persistent odour of celery.

ESSET'S FLUID—GERMICIDE, ANTISEPTIC &c.

(J. W. DRYSDALE AND CO., 8, CREECHURCH-LANE, E.C.)

Compounds of the type of the above fluid have been largely appreciated as active and agreeable disinfectants. One commendable feature of this fluid is that it is practically non-poisonous, consisting largely of the homologues of phenol rather than of true phenol itself, which of course is distinctly poisonous. It is a clear dark-brown fluid with a strongly alkaline reaction, giving rise to a perfectly uniform milky emulsion when diluted with water. Oils may be separated from the emulsion so obtained by the addition of acid. Esset's fluid affords an efficient disinfectant and antiseptic and has the further advantage of being very convenient to use both for surgical and ordinary purposes.

"HIPPOEUTHEN" FOOD FOR HORSES.

(HIPPOEUTHEN COMPANY, 6, DUKE-STREET MANSIONS, GROSVENOR-SQUARE, W.)

We have ascertained the approximate composition of this food. It consists broadly of a mixture of pulse and cereal foods such as are suited to the requirements of the horse. Searching tests have satisfied us that "hippoeuthen" is perfectly free from arsenical, antimonial and other objectionable mineral compounds. The use of this food is said to produce in horses a brighter coat, better wind and improved tone—statements which hardly come within the scope of a laboratory department either to contest or confirm, but we may commend them to the notice of our many readers who have occasion to avail themselves of the services of that most useful—indeed indispensable—quadruped, the horse, as worthy of being put to the test.

BANNERMAN'S PHENYLE DISINFECTANT AND GERMICIDE.

(AGENTS, A. M. FUNK AND CO., CHICAGO.)

This preparation is put up in two forms—in cubes of an inch and a half in dimension and in powder resembling in appearance brick-dust. The same active principles are evidently common to the composition of both. According to our experiments, the disinfectant appears to consist of a mixture of well-known tar distillation products the principal of which is naphthalene. The blocks, in fact, glisten with crystals of naphthalene and the pronounced smell that is evolved at ordinary temperatures confirms this observation. Tar products of the phenol type are also present in the compound, since on distillation a dark brown oil comes over. Whilst it is correct to state that the substances which enter largely into the composition of these preparations possess certain disinfectant and antiseptic properties, yet we can only regard them as of very limited value for most practical purposes.

MATER MISERICORDIÆ HOSPITAL, DUBLIN.—The Leonard Prizes have been awarded as follows:—Medical Gold Medal, James J. Fitzgerald, 1st; Silver Medal, J. G. Berne, 2nd; Medical Junior Prize, Maurice J. Carroll, 1st; Surgical Junior Prize, Maurice J. Carroll, 1st.

New Invention.

FLEXUS FIBRA—A SUBSTITUTE FOR LEATHER.

LEATHER possesses such excellent qualities for the many purposes to which it is put that it would seem idle to seek a substitute. Nevertheless, there are many persons who, whilst they find that leather serves as an effectual protective covering for the foot, find also that it is often obstinate in adapting itself to the requirements of individual feet or to the more or less physical abnormalities to which so many are subject. In such cases, if comfort is to be expected, only the most supple and yielding quality should be worn. At the same time, of course, it should be waterproof and durable. These qualities, so far as we have been able to judge, belong in a satisfactory degree to an interesting and new material called "flexus fibra." It appears to be a flax-derived material, suitably prepared and oiled, so that to all appearance it is leather. It is particularly supple and flexible and takes a polish equally well with the best kinds of calf. We have recently had occasion to wear a boot of which the "vamp" or cut-front section consists entirely of flexus fibra and have purposely submitted it to somewhat undue strain, in spite of which no cracking of the material was perceived, whilst the sense of comfort to the foot was very evident. Flexus fibra, being a material of vegetable origin, is calculated also to facilitate free ventilation and thereby to obviate the discomfort arising from what is called "drawing" the feet. Tests with a view to prove its damp-resisting power were made with the material by placing a small section over an open glass tube with true ends, so that on applying pressure at the other end of the tube it was found to be practically air-tight. This having been ascertained, a little water was placed in the tube resting on the flexus fibra and pressure once more applied. After some time traces only of liquid had oozed through; but, of course, this was an exaggerated state of things and, as a matter of fact, no oozing of water took place at all when it was simply allowed to rest on the material for several hours. The structure of flexus fibra is better seen when the oil in it is removed with ether, to which it imparts distinct fluorescence, and when the black dye is washed out (being at the same time changed to red) by hydrochloric acid. A variety of boot patterns of this material are made by Messrs. Hilditch and Co. of 48, Grafton-street, Tottenham-court-road, W. The material certainly appears to offer advantages to those who suffer from corns, tender feet &c.

DEATHS UNDER ANÆSTHETICS.

A FATALITY occurred on June 7th at the Hospital for Consumption, Brompton, the record of which offers many points of interest. The observations carefully made at the time have, through the courtesy of the resident staff, been placed at our disposal. The patient, a painter aged thirty-five, was admitted into the hospital on June 5th and was then suffering from an empyema on the left side, which communicated with the bronchi of the left lung, occasioning cough and the expectoration of pus. The condition rendered an operation imperative, and on the 7th it was determined to resect a rib and evacuate and drain the pleural cavity. The man's state was deemed very grave. He had been ill for ten weeks and the quantity of pus thrown from the chest rendered the use of an anæsthetic a matter of extreme danger and difficulty. The chloroform (Duncan and Flockhart's) was given from a single layer of lint by a skilful and experienced medical officer, who possesses special knowledge of these cases and who throughout gave earnest and undivided attention to his responsible task. As a preliminary the patient, who had been carefully prepared for the anæsthetic, was induced to sit up and expectorate all he could from his lungs. The chloroform was then administered, being dropped from a drop bottle upon the lint, and the respiration constantly watched. The patient took the chloroform well; there was a little excitement and struggling, but this soon passed off. The colour, however, became somewhat dusky, although the respirations remained full and deep, and this fact made the chloroformist request the operator to be prepared, if need be, to incise the thoracic parietes at once. A brief period of muscular rigidity ensued, but the full or third (Snow) stage of chloroformisation was only attained for a few seconds. The operation was begun six minutes from the commencement of inhalation and in about one minute after this, as the rib which was exposed by the surgeon was being denuded of its periosteum, the patient's colour became darker and his respiration impaired, whilst his pupils dilated. The chloroform was withdrawn and the tongue pulled forward, but in spite of this the respiration became irregular and in about half a minute stopped. During the struggling stage some pus had been coughed up and there seemed to be still some in the trachea. An opening was at once made into the thorax and sixty to seventy ounces of pus were evacuated, but without any amelioration of the patient's symptoms. Artificial respiration was then carried out, and after a few minutes breathing was restored and the radial pulse became again perceptible, whilst the colour greatly improved. Artificial respiration was then discontinued and the patient took about ten deep natural breaths, when the respiration quietly failed and the radial pulse grew imperceptible. Resort was again had to artificial respiration; the feet were elevated and the head lowered, ether being given hypodermically. The tongue was kept forward throughout. These resuscitative measures were persevered in for twenty minutes, but no sign of revival was obtained. In all about three drachms of chloroform were employed. A necropsy was made and it was found that the bronchi of the right lung were full of pus, even those of the upper lobe. The lung, except for œdema, appeared normal, but the left lung was completely collapsed. The heart was dilated and flabby. The reporter further adds that he believes that the respiration failed before the heart's action ceased and that the symptoms described and the post-mortem appearances recorded leave little doubt on the mind that such must have been the case. These terrible complications under chloroform are of peculiar moment. The mechanism of death is clearly asphyxial from invasion of the sound lung by the pus from the empyema, and the sedative effect of the anæsthetic by abolishing coughing reflex aggravated the grave condition of the patient. Chloroform in these cases is certainly the safest anæsthetic when the narcosis is not allowed to pass beyond the first or second stage, and even then, as in the above case, no amount of care will ward off peril. Probably the anæsthesia of the period before loss of reflex excitability is not sufficiently studied or practised. The next case we have to report is one of death from chloroform which occurred at the New Hospital for Women, and we are indebted to the authorities of that hospital for placing the notes at our disposal. A married woman aged forty-three was admitted for operation to relieve dyspnœa and dysphagia arising from the presence of goitre. On Saturday, June 17th, the patient was carefully examined by the anæsthetist to the institution and found, in her opinion, to be capable of taking chloroform, which was accordingly given on folded lint. The induction of anæsthesia was normal, except that no struggling occurred, and took about seven or eight minutes. The operation was in progress, when some temporary respiratory irregularity occurred as the thyroid was dragged upon, but disappeared as soon as the dragging ceased. The pulse was unaffected. Two or three minutes later the breathing "faltered," grew rapid and deep, and then stopped, and the pupils dilated widely. The operation was suspended, the patient was dragged to the end of the table, the head hanging back, the tongue was drawn forward and artificial respiration maintained for three-quarters of an hour. Air entered the chest freely at this time. As subsidiary measures of resuscitation aromatic spirit of ammonia and ether were injected under the skin, brandy enemata were thrown into the bowel, the legs were raised, the præcordium was excited by a faradaic current, the heart was kneaded from the diaphragm with the hand and the chest was rubbed and slapped with a wet towel, but no attempt at revival took place. A necropsy was not allowed. In all operations involving the neighbourhood of the distribution of the vagus and nerves closely associated with it there is a tendency to reflex excitation of the respiratory centre, and the onset of rapid breathing so induced is a danger signal indicating that no more chloroform should be given until the rhythm is restored. Even when this precaution is followed there is a danger lest the rapidity with which the chloroform actually in the air-passages is carried into the circulation may produce an overdose. These two cases emphasise the extreme importance of watching the respiration.

THE LANCET.

LONDON: SATURDAY, JULY 1, 1893.

IN our issue of June 17th we published the conclusion of our Report upon the Administration of Chloroform and other Anæsthetics, and the present is a fitting occasion to offer some comment upon what has proved to be an almost unique undertaking. With the publication of the Reports of the Hyderabad Commissions the subject of the dangers and precautions necessary in the use of all anæsthetics was brought prominently before the profession in the columns of THE LANCET; but, although we were fully aware of the immense importance of these reports and recognised the value of what we may term one of the most thorough and painstaking physiological investigations into the action of drugs of modern times, we yet felt the justice of the criticism advanced by many, whose experience gave their opinion considerable weight, that no investigation into the behaviour of ether and chloroform would be complete without thorough and exhaustive clinical corroboration. That Surgeon-Lieutenant-Colonel LAWRIE'S work, taken together with the incisive criticism of Dr. LAUDER BRUNTON, who represented THE LANCET on the occasion of the Second Hyderabad Chloroform Commission, must always remain monumental needs no contention; it has been our endeavour to supplement their labours by a clinical investigation. Of the many efforts which have throughout the last forty-five years been made to solve the problems of anæsthetics none were of such a nature as to afford us a model or furnish us with a method upon which to base our undertaking. Dr. DUDLEY BUXTON'S aid was sought and readily given; but it must be most distinctly understood that our Commissioner has directed the inquiry rather than inspired the report. In the very inception of the undertaking it became evident that the work must prove of a far more serious and arduous nature than was at first contemplated. Indeed, the expenditure of time and labour added to the mechanical difficulties of producing the report as well as the great cost of printing and preparing the necessary stereotypes represent a task the accomplishment of which has never before been attempted. The Report as we publish it at present is a condensation of a much more elaborate one prepared by our Commissioner, and this recasting, rendered necessary by the restrictions of space in our columns, has been the unavoidable cause of the delay in producing the Report, which carries us up to the close of 1891.

The lines of the Commission are already familiar to our readers. A carefully drawn-up series of questions was sent by us to all the readers of THE LANCET; a further form, with a letter in the vernacular of the country, was despatched to the leading surgeons at home and abroad, to the hospitals of the United Kingdom, to those of the Continent, to those of the Colonies and to those of the United States and of India. The answers obtained were carefully condensed, tabulated and arranged. Available published records alike of deaths and accidents under the various anæsthetics were closely studied and dealt with in a similar manner, and from the evidence accruing from such sources of information our final conclusions and summing up have been derived. We may well ask ourselves, To what end has all this labour been undertaken? to what coign of vantage has this report carried us? In the first place, we have been able to demonstrate facts and figures which have hitherto been merely hearsay statements. We drew attention to the fact that but few systematic records or registers of cases in which anæsthetics were given have hitherto been kept, even in our large hospitals, and although our Report does not directly lead us to this inference we are impelled to think that the teaching of our medical schools has been deficient as regards anæsthetics. Our Commissioner believes—and a perusal of the cases appears to justify his statement—that many of the fatalities which occur under anæsthetics are preventable and arise through the want of experience of those who undertake what, after all, is a very serious responsibility—the administration of an anæsthetic. The task is frequently entrusted to a young house surgeon or senior dresser, who, not altogether unnaturally, is apt to watch the operation rather than his patient. That our Report has not finally settled all the *quæstiones vexatæ* is not in the nature of things to be wondered at, although we think we may safely say it has prepared the way for a future settlement. The evidence adduced by the Hyderabad Commissioners concerning the absence of primary syncope in chloroform toxæmia has not been found to be wholly supported by the conclusions of our Commissioner. He contends that the finding of the committee of the Royal Medical and Chirurgical Society is supported by the evidence advanced in our Report. Death under chloroform, it was alleged, occurred in man usually from failure of respiration, although the precise pathology of this collapse of a vital process was, in the absence of direct evidence, purely conjectural. But in some instances deaths from direct cardiac failure, of which the pathology is again uncertain, are said to occur, and our Commissioner, whilst he maintains that very many of the cases assumed by the reporters to be purely syncopal are really respiratory, believes that a considerable number of them are to be found amongst those which we have collected and published. Our aim has been to collect and arrange facts rather than to dogmatise, and our Commissioner has acted upon this line; the facts are now before our readers, and it is for them to draw their conclusions. To render this reference more easy we propose to reproduce "The Report of THE LANCET Commission appointed to investigate the subject of the Administration of Chloroform and other Anæsthetics from a Clinical Standpoint" in pamphlet form. If no other purpose were served by our Report than to direct attention to the really small death-rate under anæsthetics when properly and carefully given, our labour would not have been thrown away, but we believe that very much more will follow, and it is, we hope, not too much to say that when the clinical and the physiological aspects of the question can be carefully compared, and when those who support the views appropriate to each school of thought can together trace the teaching of the two sets of facts, we may at length arrive within measurable distance of a solution of what is, perhaps, the most important question of modern surgery.

"IN this refulgent summer," says EMERSON in one of his addresses, "it has been a luxury to draw the breath of life.

The grass grows, the buds burst, the meadow is spotted with fire and gold in the tint of flowers. The air is full of birds and sweet with the breath of the pine, the balm of Gilead and the new hay." We might apply these eloquent sentences without much qualification to the present *annus mirabilis*, the most brilliant probably within living memory. Whatever betides the unlucky agriculturist, who, whether it rains or shines, always seems to be in a sorry plight, there can be no doubt that such a spring and summer as the present, such a marvellous succession of days of cloudless sunshine, add immensely to the pleasure of living. They tend to develop qualities in which the British nation is generally believed to be deficient—viz., gaiety, light-heartedness, genuine delight in the simple pleasures of wood and field, and the capacity for throwing aside the graver cares of life and entering heartily into its enjoyments—qualities which are such amiable features in the national character of some of our neighbours on the Continent. The unusual warmth and dryness of the year are likely, also, to hasten the advent of the holiday season and to suggest the maturing of plans which are so often retarded by cold and damp. There has been a tendency observable of late years to postpone the holiday season more and more to the end of summer and the beginning of autumn; but the explanations of this tendency are social and conventional rather than meteorological or hygienic. There is no reason, except usage and social convenience, why June should not be a holiday month. The weather is then more settled on the average than in either of the succeeding months and the days are at their longest. But Parliament regulates its holidays, practically if not avowedly, by the maturity of grouse and black cock, and the upper classes follow suit and more or less set the fashion to all the classes beneath them. We are not quarrelling with this tendency, which has some advantages, but we would point out that those who through choice or necessity decide to take their holiday earlier in the year are not to be commiserated. The end of June or beginning of July is one of the very best periods of the year for visiting some of the most famous foreign resorts, for two reasons: firstly, because the heat is then generally less severe than later; and, secondly, because the rush of tourists has hardly begun, and the trains, steamboats and hotels are half empty, with the result that the traveller gets an amount of comfort, attention and civility which he looks for in vain during August and September. It is curious how deserted are the most popular Alpine resorts until about July 15th. There is certainly no sufficient reason for the arbitrary limitation of Alpine touring to the two months from the middle of July to the middle of September. It may be granted that these two months are, on the whole, the best for facility in climbing, atmospheric effects &c., that some of the highest passes are hardly clear of snow until July is advancing and that the hotels are scarcely up to their best standard until the season proper has begun. But there is much to be said in favour of a Swiss tour before the immense rush of tourists has fairly set in. The weather is at least as good then as it is later; the days are long; the hotels are never crowded; there is no unseemly scramble for a place at the *table d'hôte* or a good seat on the *diligence;* the Alpine flora, of which the ordinary tourist commonly sees nothing, is still in its glory; and the *auri sacra fames* has not yet taken malign hold of guide, postboy, *maître d'hôtel* and chambermaid. Those who have never been in Switzerland in the off-season have a new experience before them, an experience affording a good many pleasurable surprises.

The Rhineland is another favourite resort which is very charming early in the tourist season, but the case that will most readily occur to our readers is that of Norway. It is universally agreed that June and July are the best months in Scandinavia and that August is less desirable. This applies generally, and not merely to those adventurous spirits who desire to behold the midnight sun. In Eastern Scandinavia August commonly sees the beginning of the rainy season, which as a rule sets in later upon the western seaboard. Many of the most famous foreign spas, such as Carlsbad and Vichy, are on the whole more agreeable in the earlier part of their season. It is remarked at many such resorts that the English come latest, long after the continental nations, not for climatic reasons or because the prospects of treatment are then better, but simply because the English season is conventionally later than that of most other countries. Some of the most unpleasant features of foreign travel, such as heat, dust, mosquitoes and the insect tribe in general, are decidedly worse at the height of the season than at an earlier period.

There is something to be said, on the other hand, for delaying a foreign tour until towards the end of the season, when the rush is over; but—at least in mountainous districts—the experiment is a hazardous one. Autumn rains, winds and fogs often begin early in the higher Alpine regions, and if bad weather sets in at this time of the year it is apt to continue. The hotels are not built to withstand much rain or cold and the traveller, forgetting his elevation, may occasionally have to marvel at the inclemency of the elements.

In conclusion we would point out that there is in this particular year one very important argument which favours the postponement of any decision as to a tour abroad until the later part of the holiday season—i.e., the question whether it may not be largely spoiled in many foreign resorts by the presence or close proximity of cholera. It is sincerely to be hoped that these fears may not be realised, but at present it would be decidedly premature to feel unduly confident on the subject.

MILWAUKEE seems to be a very desirable place for people to live in unless they happen to follow the medical calling. The American Medical Association has lately held in that city its forty-fourth annual meeting. It was appropriately and warmly welcomed by His Excellency GEORGE W. PECK, the Governor of Wisconsin, and by the Hon. P. J. SOMERS, the Mayor of Milwaukee. It is from the address of the Governor that we gather the virtues of Wisconsin as a place of residence. It reminds us of a description of the climate of Australia sent home by one of the early emigrants—that it was so healthy that nobody died there worth speaking of. Wisconsin, according to the Governor, contains within its borders everything necessary for man's comfort except gold—rather an important exception, by the way. Medical men are entirely unnecessary there and people cannot tell why they come or how they make a living when they do come. There are cemeteries, it seems, but this is only for the accommodation of those who become ill in other and less happy

climes and who have deferred too long to repair to Wisconsin. Such descriptions recall ARBUTHNOT'S account of Weymouth: "It was such a healthy place that physicians could neither live nor die there." However unhappy the lot of the resident physicians, the American Medical Association was welcomed in a most hospitable way by the Governor as representing two millions of people—and indeed in a way which seemed to show that the hosts were not without experience of the value of the medical profession. The Mayor spoke much to the purpose, and declared that it should be the aim of their law-makers to make their great country a leader in everything pertaining to the health of the community and of individuals. "It was the duty of commonwealths and municipalities to hold up the hands of members of the medical profession at all times, and especially during the prevalence of epidemic diseases; and public officials who did not do so to the full extent of their powers were guilty of nothing less than treason." These words are worthy of a place in medical literature. If they represent anything like the sentiment of public men in the United States, we may hope ere long to see the medical profession more recognised in public law than it is now and to hail the triumph of those who seek to raise the standard of medical education and medical examinations throughout the country. One feature in the business of the meeting was the adoption of a report asking for the appointment of a committee of ten to wait on President CLEVELAND in order to request him to incorporate a recommendation in favour of the appointment of a Secretary of Public Health in his next annual Message to Congress. In some form or other we may expect to see such a recommendation acted on by the Government of the United States. It is characteristic of the people of the States that, though fond of personal liberty, they are intolerant of those forms of it which involve injury to others. If the public law is not sufficiently strong or prompt to protect the public health and life from infected individuals they are apt to take the law into their own hands and to rather roughly assert the rights of the majority.

The meeting itself appears to have been one of interest. The papers read were not of very striking originality. Perhaps we should except two of them from this remark, one of which included tracings in a case of bradycardia—where the pulse-rate was as low as twelve per minute; the patient's only complaint was of headache caused by aural vertigo; no valvular murmur could be detected, but Dr. FERGUSON, who detailed the case, believed that there was obstruction somewhere in the aorta. Such cases are very rare, but a rate as low as seven beats has been recorded. We may also note a paper read by Dr. CHARLES DENNISON, whose communication was a plea for a system whereby persons whose lives are insured should be sent, at the expense of companies whose policies they hold, to a suitable climate in case they develop phthisis. The companies are to find the benefit in a prolongation of the time over which the insured continue to pay premiums. It would seem almost as reasonable to suggest that they should be sent at the expense of the medical profession, so that the time over which they paid medical bills might be extended. In both cases the objection occurs to us that the sums paid in averting an evil that might not happen would soon obliterate the advantage of any problematical postponement of the time when the insurance became a claim; but this was not the view of the Association, which considered the paper so important as to refer it to a special committee to report thereon to a later meeting of the Section. Certainly there were many communications of great interest. Amongst them we can only mention a few. The address on General Medicine by Dr. HARE was noteworthy; so was the address on Surgery by Dr. HENRY M. MUDD of St. Louis, in which the advantage of drainage in surgery was placed above all other antiseptic measures except soap, water and heat. The paper also included a very able discussion of the subject of Appendicitis and surrounding inflammations, which, the writer maintained, resulted not so much from concretions as from irritative catarrhal obstructive conditions. Dr. ANDERS of Philadelphia read an excellent communication on some points in the Clinical History of Erysipelas, with an analysis of 2110 cases. He showed that most cases occur in April and that temperature has the least, and relative humidity the greatest, influence on it. A combination of low barometric pressure with a mean relative humidity most favours the development of the disease.

We wish all success to the Association. It has difficulties to meet in the vast area of its territory and in the consequent varied conditions of life and practice. But it should be supported by the profession, and, as the Mayor of Milwaukee suggested, should be welcomed by all communities as representing a calling indispensable to civilisation.

IT will be in the recollection of many of our readers that in 1872 the "drink" question in its pathological relations was exhaustively dealt with in the evidence given before a select committee of the House of Commons by the most competent medical authorities of the time, including such well-known and trusted men as Dr. ROBERT BOYD, Dr. ANSTIE, Dr. PARRISH, Dr. PEDDIE, Dr. DODGE, Dr. SKAE, Dr. (now Sir) ARTHUR MITCHELL and Dr. (now Sir) JAMES CRICHTON BROWNE, not to mention others of equally high standing in the profession. This committee, upon the testimony of the witnesses whom they examined, reported, *inter alia*, "that occasional drunkenness may, and very frequently does, become confirmed and habitual and soon passes into the condition of a disease uncontrollable by the individual, unless, indeed, some extraneous influence, either punitive or curative, is brought into play; that self-control is suspended or annihilated; moral obligations are disregarded; the decencies of private and the duties of public life are alike set at nought; and individuals obey only an overwhelming craving for stimulant to which everything is sacrificed."

Seven years later the Habitual Drunkards Act, 1879, was passed, its object being "to facilitate the control and cure of habitual drunkards," and by this Act licensed "Retreats" were established for "the reception, control, care and curative treatment of habitual drunkards." For the purposes of the Act "habitual drunkard" is defined as meaning "a person who, not being amenable to any jurisdiction in lunacy, is notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself or to others, or incapable of managing himself or herself and his or her affairs." Based upon these general indications of treatment, an effort

has been made, with the help of legislative measures, to deal with that habitual drunkenness which makes itself so severely felt as a social and domestic oppression; and during the past year the departmental committee on the subject, whose report we referred to in THE LANCET of May 13th last, has been taking evidence as to the results that have been obtained. These results do not appear to have been either satisfactory or extensive, as may be seen by reference to the "Notes of the Evidence," just issued as a Parliamentary Blue-book. For once it will be found that doctors do not differ and that they are practically unanimous in their expression of opinion on the general merits of the question as to how best to deal with the habitual drunkard and as to the defects in the existing machinery.

Dr. HOFFMAN, the Inspector of Retreats under the Inebriates Acts, testifies to the non-success of those Acts and gives important evidence as to the difficulties that have stood in the way of their wider application. He thinks there should be separate retreats for criminal drunkards and those habitually brought before a magistrate. He thinks more people would open retreats if the magistrates' licence lasted longer than thirteen months, as at present. He advocates a simplification of the mode of admission and a more general advertisement of the existence of retreats for curative purposes; but much more than these elements of failure was required to render the Inebriates Acts, from which great practical results were anticipated, so largely inoperative. A memorial has been addressed to the Inebriates Committee by a representative body of the medical profession, and in that memorial reference is made to the limited value of the voluntary method whereby an inebriate may place himself under restraint for a period not exceeding twelve months. The memorialists succinctly express their opinion as to what is required in the following terms:—"We earnestly desire the compulsory restraint, with all proper safeguards, of those men and women who cannot control themselves in this respect. We are of opinion that much good may be done to inebriates if compulsory detention can be enforced for a sufficient time, and if upon release and subsequent break-down they can again be placed under control without delay or difficulty." This is a practical and common-sense expression of opinion based upon wide experience, and it cannot fail to have carried weight in the deliberations of the committee. It was well that the memorial avoided reference to the controversial aspect of the pathological question as to the proportion of disease or of mere viciousness that enters into cases of habitual drunkenness. The memorial deals with inebriates as a class to be dealt with on certain lines, and insists upon the necessity of compulsory restraint as an essential feature in their treatment. This necessity was recognised by all the medical evidence that was given before the Committee. Dr. NORMAN KERR gave valuable evidence as to the treatment of inebriates at home and abroad, and he gave it as his experience that, "taking the whole treatment of inebriates all over the world on recognised intelligent lines, the proportion of permanent cures will be found to be one-third." If we were able to make ourselves believe, on full evidence, that such an amount of success had attended the treatment of inebriates in this country, taking both sexes, we should have every reason to feel gratified with the result.

Sir ANDREW CLARK speaks very strongly of the difficulty of curing inebriety in women as compared with men; he has seen hundreds of recoveries in men, not five in women. He regards occupation as one of the prime methods of cure. He would prefer State management of the institutions, as he thinks that when retreats are in the hands of private persons their interests continually lie in conflict with their duties. Sir ANDREW CLARK is not only in favour of compulsion, but he states that he has the strongest possible conviction that nothing but compulsion will succeed. Professor CLIFFORD ALLBUTT lays some stress upon the distinction between cases where a tendency to drink is inherited as a disease and cases where the tendency is merely a matter of vice, and he would treat habitual drunkards, especially the hereditary class, in separate wings of lunatic asylums. This opinion in detail does not receive general support. He admits that in extreme cases of the non-hereditary class, the indications of treatment are ultimately the same as those in the hereditary class, that in fact there is a point at which the two classes have to be regarded as on the same footing so far as their mental and nervous condition is concerned. He thinks there is much less habitual drunkenness now than there was formerly, i.e., that there are fewer cases where drink is a source of ruin to the individuals themselves and to their families. We should be glad to think that this opinion is in consonance with the general impression and to learn what evidence there is to support it as a fact. Sir RICHARD QUAIN emphasised verbally the opinions expressed in the memorial from the medical profession, and advocated the detention of inebriates in retreats for longer periods.

In addition to the opinions expressed as to the social and official difficulties that tended to promote failure by making the process of admission cumbrous and distasteful, several medical gentlemen who had been professionally connected with the management of retreats gave evidence as to the internal difficulties connected with the exercise of wholesome discipline in voluntary cases and also as to the unwillingness of the inmates to follow steadily any out-door occupation. They also pointed out the desirability of facilitating the recapture of escaped patients.

Apart from minor questions of detail, it is very satisfactory to note the practical unanimity of the medical evidence with regard to the main issues under consideration. There is, for instance, a general agreement as to the inadequacy and want of success of the existing method of dealing with inebriates, whether criminal or non-criminal, and as to the uselessness of short periods of imprisonment in the former class of cases. Again, there is only one opinion as to the necessity for compulsory restraint for prolonged periods in addition to the voluntary system of dealing with inebriates in retreats supported more or less by public funds. As we pointed out in detailing the recommendations made by the Committee in their report, a decision had been arrived at with regard to these all-important issues which quite accords with the views expressed in the evidence of the medical authorities. Last week, in the House of Commons, the Home Secretary said that it was his intention to give effect by legislation to the recommendations of the Committee; but unfortunately he does not see his way to introduce a Bill on the subject during the present session.

Annotations.

"Ne quid nimis."

THE HARVEY TERCENTENARY AT GONVILLE AND CAIUS COLLEGE, CAMBRIDGE.

THE notable and striking celebration which was so successfully planned and hospitably carried out by the Master and Fellows of Gonville and Caius College last week added one more to the lengthy list of commemorations of the founder of scientific medicine whilst it gave occasion for the utterance of wise and worthy sayings upon the man and his work, which will enrich the repertory of discourses pronounced in his honour and will impress once more upon us the true value and meaning of a life such as Harvey's was. Three centuries had passed since the day on which the youthful Kentish scholar presented himself to enrol his name on the College books, and it could not but fail to have been impressed upon those present, who had assembled to commemorate that event, how vast is the gulf that divides the science of to-day from its position at that time. Then it was, as it were, an insignificant stream, unnoticed by the learned, who trod in security the gardens raised by the assiduous care of generations of scholars, which had only the semblance of vitality and not its essence. Now it is a wide and rushing river which, gathering fresh additions day by day, sweeps away much that has become effete and traditional whilst it brings to new soil the fertilising freshness from many a spring of knowledge. And it was largely owing to William Harvey that the hidden sources of this streamlet were first revealed to mankind. What more, then, could his College do than to show its regard for his labour and to commemorate with suitable circumstance the fact of his entrance into the path which led him to such a bourne? Still the name and fame of Harvey are not held in honour solely because of his discoveries, which have had such far-reaching results, and it was not merely on this account that physiologists and physicians gathered in the hall of Caius College last Wednesday week to hear his eulogy pronounced by the foremost representatives of science and to receive the congratulations from the sister university of Padua, which also claims him as her son. For Harvey left behind him not only the fruits of his work, but the even greater benefit of his *method* of work, showing by his own example to all posterity how science is to be studied. This, indeed, formed the burden of the eloquent speeches by Sir James Paget, Dr. Gairdner and Mr. Huxley on this occasion, just as it has formed the text of many an oration delivered in his memory during the past 300 years. It was a novel and, indeed, a heretical departure from the generally accepted routine to pursue in the search of truth the line of personal inquiry by observation and experiment in preference to a tacit acceptance of the teachings of his forerunners. If Bacon expounded the principles of scientific inquiry, it was men like Harvey, Galileo and Newton who advanced the cause of science by showing how those principles could be practically pursued. Herein lies the basis of all real knowledge. The celebration at Cambridge, however, has another signification and one of more immediate application to the present day. In honouring the memory of Harvey and in selecting him from the roll of the illustrious and great men who have passed through its portals, it seems to us that the University and the College have expressed in no doubtful terms their sense of the value and importance of science in education. Harvey is not esteemed because of his wisdom in the learning of the ancients —of his "culture," as it is phrased,—but because in him we have the pattern and example of the new learning, the new culture which is to lead the world onwards. The University of Cambridge has taken a prominent part in this cause and has distinguished herself by the encouragement she is giving to the pursuit of science, and especially to biological science, with which the name of Harvey is identified. May it not be inferred that her recognition of the fact that he was a scholar within her walls as being an event worthy to be commemorated after the lapse of three centuries shows the appreciation in which science is held and marks with approval the value and importance of its pursuit as one of the chief aims of a university? The tercentenary celebration of Harvey's entrance into Cambridge has, then, a general as well as a personal application, and in commemorating the past it ratifies the policy of the present and augurs well of the future in relation to scientific study.

THE CASE OF CHOLERA ON BOARD A SUNDERLAND STEAMER.

SOME concern was caused in the north this week by the intelligence that a Sunderland steamer had arrived off the Tyne on Sunday flying the quarantine flag. It appears that the chief sanitary inspector of the Tyne port sanitary authority went at once on board and found that the vessel was the *Myrtle Branch* of Sunderland from Nantes and that one of the firemen had died somewhat suddenly the same day from choleraic symptoms. Subsequent inquiry left little doubt that it was a case of Asiatic cholera. The man had succumbed in a few hours. The body was removed from the steamer and, under proper precautions, interred at Jarrow. The vessel was also thoroughly disinfected and afterwards allowed to enter the Tyne. Dr. J. D. Dixon, the acting medical officer of health, has kindly furnished us with the following particulars respecting the case. "The steamship *Myrtle Branch*, with twenty hands all told, arrived in the Tyne on Sunday evening (June 25th) from Nantes, having on board the corpse of a fireman—viz., William Owen, aged forty-two, a native of Hull. On examination I found the man had undoubtedly died from Asiatic cholera. The captain reported that he became ill at 5 A.M. and died at 2.30 P.M. on that day. The ship was put in quarantine, the corpse removed to the Floating Hospital, the crew examined, the clothes &c. of the deceased destroyed and all necessary disinfection done. The corpse was buried at Jarrow Burial Ground on June 26th at 2 P.M. The ship was loaded with water ballast, which was disinfected and pumped out. Remainder of crew all well at present."

ENLIGHTENED LAY MUNIFICENCE.

FROM time to time there arise in the community men or women inspired by philanthropic wisdom who, themselves blessed in mind and means, are at pains to give the less favoured of those around them as large a measure as possible of the advantages they enjoy. Such are, indeed, the salt of the earth, infinitely superior as maintainers of social order to any outward agent of repression—members of the commonwealth to whom it owes a stability foreign to other States, where the duty of wealth and position to poverty and destitution is neglected or perfunctorily fulfilled. A typical example of these true "saviours of society" was the late Mr. Alexander Cowan, of Penicuick, in whose name there was founded on Saturday, the 17th ult., an institute for which he had bequeathed the necessary funds. A numerous company assisted on the occasion, the spokesman of which was the testator's son, Mr. John Cowan of Beeslack, who in laying the foundation stone gave a brief outline of his father's career. Early in the century Alexander Cowan created the extensive paper-making business which rapidly brought him fame and fortune, and in his search for the pure water required in the manufacture he drew the attention of Edinburgh engineers to a source he had found, which, valuable as it was for his own purposes, he was ready to sacrifice that

it might be turned to account for city purposes. He was the first really effective contributor to the Royal Infirmary, on which the prestige of Edinburgh as a medical school so intimately depends. He was, also, on a similarly munificent scale a benefactor of the Royal Lunatic Asylum, and, indeed, laid every medical charity in city and suburb under the heaviest obligations. During the terrible cholera visitation of 1832, at a time when the strangeness and intractability of the disease induced a panic in the community, he visited the down-stricken of the humbler classes in the Canongate and other poor quarters of Edinburgh, and in spite of the remonstrances of friends, medical and other, he continued his daily rounds till the epidemic had disappeared, and then he conveyed the more urgent of the convalescents to Penicuick for the benefit of country air. Throughout his long life he never ceased to give the poor and the suffering the help they required—not in the way of indiscriminate charity, but after the bestowal of thought on each individual case into which he had made personal investigations. Education, from infancy to adult age, was another object on which he lavished his time, his consideration and his means, and the Cowan Institute, which perpetuates his name, is but the fitting culmination to a series of kindred undertakings on a smaller scale for the intellectual and moral development of the place in which his lot was cast. Such a career is well worthy of recognition in the columns of THE LANCET, and especially at a time when social problems are daily acquiring a more pressing character and when the healing art, in its widest interpretation, has need of every auxiliary the lay world can contribute for the rehabilitation of the present and the prophylaxis of the future.

THE INTERNATIONAL MEDICAL CONGRESS.

OUR own correspondent, writing from Rome on June 24th, says: "His Excellency Signor Genala, Minister of Public Works, in an important State paper just issued, announces that the 'Policlinico,' in part of which the International Medical Congress will hold its sittings, will receive the first instalment of the sum (10,000,000fr. or £400,000) reserved for the completion of the building *quam primum*, four years being the time estimated as likely to elapse before it can really be pronounced *un fait accompli*. In addition to the portions of it now in a finished state, the clinical wards and the construction of the departmental accommodation in connexion with these will be proceeded with at once. With the balance of the above-mentioned sum (should such there be) the Government, in accord with the Amministrazione Ospitaliera, contemplates the institution of one or more pavilions in the grounds of the Policlinico for supplementary hospital purposes. Meanwhile the Segreteria Generale of the Congress continues to receive acceptances from various foreign Powers of the invitations it sent them to take part in the sittings. A strong representative body from the Spanish Government schools and services has already been nominated, in which it will suffice to mention Dr. Angelo Fernandez Caro, Senator of the kingdom and Sub-inspector of Hygiene, as delegate of the Admiralty of Spain. Bavaria, according to a communication from its Minister of Foreign Affairs, has also completed and sent in its list of representatives. From the War Minister of the same Government a circular has been received by all the army medical officers in the Bavarian service, intimating to them the date of the opening of the Congress and expressing the hope that, in as large numbers as possible, they will avail themselves of the opportunity of attending its sittings. The organising committee of the Esposizione Internazionale di Medicina e d' Igiene, to be held from Sept. 15th till Oct. 15th following, has already removed its secretarial and presidential offices to the Palazzo di Belle Arti in the Via Nazionale, where the utmost energy is being put forth for the arrangement of the exhibits, which will be on view in the spacious halls of the palace itself and in the contiguous gardens. So great has been the influx of medical, surgical and hygienic products and articles from America and the Continent of Europe that the committee have had to postpone the final day for sending them in till July 31st. This it has agreed to do at the instance of the Commendatore Luigi Pagliani, Director-General of Public Health at the Ministry of the Interior, Rome, to whom all applications on the part of intending exhibitors should be addressed without delay."

A LAUNDRY HOME AT BIRMINGHAM.

WE may take it as an evidence of healthy national feeling that it has inspired a variety of enterprises devised for the purpose of raising to a life of use and happiness many of those unfit for ordinary occupations, and whom the hard law of selection would condemn to extinction. Amongst such enterprises will rank that which is associated with the Laundry and Homes of Industry in Birmingham. The purpose of this establishment is to provide for girls of weak intelligence or will who cannot take their places in life beside their stronger sisters, and therefore would easily lapse into the depraved and criminal classes. The institution comprises, besides the laundry, two homes, and will accommodate sixteen or seventeen inmates. A small charge, 5*s.* per week, is paid in each case by relatives, local guardians or other interested persons. Besides laundry work, some attention is given to education, both religious and secular. The scheme has had but a year's trial, yet its history has not been unmarked by encouraging proofs of vitality. The establishment is partially self-supporting, and its methods are appreciated by the girls themselves. Its further development will be watched with interest, and we trust will not be suffered to languish for want of its due share of material support, which, whether it comes in the form of money or other gifts, will certainly be welcome.

THE PERPLEXITIES OF THE METROPOLITAN ASYLUMS BOARD.

MR. COHEN continues the useful function of trying to elicit the real facts of the case from the President of the Local Government Board. We are glad that this subject, to which we have been trying to rouse attention for some months, is being considered. The chairman of the Board, at the recent fortnightly meeting, gave several illustrations of the misery and disease which exist in the houses of the London poor, for whom these hospitals were built, and who cannot be received for want of room. One reason elicited for there being fewer beds for use is that small-pox patients compete this year with those suffering from scarlet fever for accommodation. It seems to us that of the two the scarlet fever patient should be first considered. Nobody need suffer from small-pox now unless the precaution of revaccination is neglected. Any person can be protected if early recourse to the vaccination officer is made. For scarlet fever, on the other hand, there is no such protection, and it is sad to think of its existence in the crowded homes of the poor, some of whom are perhaps carrying on a small trade. This is a question that will have to be settled on some broad principles rather than on individual cases of hardship, but these cannot be disregarded. They serve, indeed, to elucidate the whole subject in all its many bearings, and are very painful and discreditable to our civilisation. Such a letter as that of Mr. Wm. F. Blyth of Bethnal-green to the *Evening News and Post*, detailing the occurrence of a case of diphtheria in a boy whom he was asked to see "of his charity," living in a single room with three or four others—various other cases following in the same house—must excite attention. In one case five persons slept in the same room with the child ill of diphtheria and

the father was dangerously ill at a general hospital. Equally shocking are the cases recorded in the same paper of a woman (whose husband earns 20*s.* a week), with six children, one under twelve, and of one with scarlet fever, who was refused admission to the Metropolitan Asylums Board Hospitals—which are really meant for such cases—and driven to pawning and other expedients to raise £3 3*s.* for admission to the Fever Hospital. Such facts are the shame of all churches and all parties in the richest of all countries and should have immediate and full investigation.

COLOUR BLINDNESS.

A REMARKABLE suggestion has recently been made to the effect that defective colour sense may possibly be a product of civilisation, and that the use of tobacco may be a factor. Much inquiry into the degree of colour blindness in different tribes and nations, and the quantity of tobacco used by them, would have to be made before this idea could be regarded as a fact. The statistics at present in evidence can scarcely be said to afford decisive proof. Colour blindness has been found to occur in about 4 per cent. of civilised European and American males and amongst $\frac{3}{10}$ per cent. of females. The Finlanders and Norwegians run up as high as 5 per cent., whilst the Dutch go down to 1·43. Amongst the Arabs and Berbers of Algeria Dr. Favre has found 2 6 per cent. of colour blindness, and some time ago Dr. Fox pronounced the American Indians afflicted to the extent of 1·81 per cent. A careful inquiry made by Messrs. Blake and Franklin, of the Kansas University, gives far more favourable results—only $\frac{1}{10}$ per cent. of the full-blooded Indians of the Haskel Institute at Lawrence being colour blind, the tribes being principally Pawnee, Cheyenne and Pottawatomie.

IMPORTANT SMALL-POX STATISTICS.

THE memorandum on the system of dealing with small-pox prepared by Mr. R. M. Hensley, late chairman of the small-pox committee of the Metropolitan Asylums Board, and submitted at a recent meeting of the Board by Mr. Acworth, is one of great interest and will repay the close attention of boards of guardians and all sanitary authorities. It illustrates by figures the remarkable abeyance of small-pox of late years in the metropolis, and it associates that abeyance with a new departure on the part of the Metropolitan Asylums Board in 1885. The facts are very remarkable. The chief of these are that for forty-eight years, from 1838 to 1885, the average annual number of deaths from small-pox in London was 1057, which on an average mortality of 18 per cent. implies that 7046 persons were attacked. The average was so well maintained that in only two of these years was the number of deaths less than 100. In 1867 the Metropolitan Asylums Board was created, and whilst the first hospitals were incomplete it was called on to deal with the great epidemic of 1871. The last epidemic was in 1885, when the number admitted was 7273; this outbreak died out in the summer of the same year. Then ensued a remarkable abeyance of the disease, the total admissions for the ensuing six years being only 495. On Michaelmas Day, 1891, there were no small-pox patients in hospital. The total deaths for these six years were only 54, as compared with a minimum of 3200 for any previous six years, or 9 deaths per annum as compared with 1057 per annum, the average of 48 years. What is the explanation of this? The memorandum tells us that in July, 1885, towards the close of the last epidemic, the Managers resolved that for the future every case of small-pox—that is, of course, every case under the care of the Board—should be immediately removed out of London by steamer to the hospital ships, then moored in Long Reach; they also erected a permanent hospital for convalescents at Darenth, about five miles from the ships. This was done at an initial cost of £175,000 and an annual cost for maintenance of £10,429, and the accommodation, it is estimated, will suffice for about 1200 patients. To this step and to the disinfection of premises and to revaccination the memorandum seems to attribute the unprecedented immunity from small-pox, and Mr. Hensley considers the outlay very cheap when it is regarded as paid for insurance against a disease that has in the past cost millions of money and thousands of lives. We need not say a word in disapproval or even disparagement of any of the above measures. They are all now much facilitated by the Notification Act, which supplies information of every diagnosed case; but it is too soon to boast. The immunity of London has been shared by the large provincial towns which have no hospital ships and some of which have had no Notification Acts. We must allow for this general abeyance of the disease. It seems now over and we shall have a better chance of gauging the value of the various measures against the most horrible and the most costly of all epidemics.

THE CENTENARY OF GILBERT WHITE.

GILBERT WHITE the naturalist died on June 26th, 1793. All lovers of natural history know and delight in his letters to Pennant and Barrington comprised in his "Natural History of Selborne"; but few, perhaps, recognise in the quiet retiring curate of a Hampshire church a man whose scientific acumen brought him into touch with portions of that theory of biological advance which has rendered the name of Darwin illustrious throughout the ages. Such, however, is the case, and the interesting celebration of Gilbert White's centenary, which took place on Midsummer Day, when Lord Selborne bore eloquent testimony to the merits of the naturalist, will long be remembered. It is not altogether within our province, perhaps, to draw attention to the value of the Selborne Society, whose objects are the inculcation of a love for natural history and the preservation of the beautiful in nature; but a question which was mooted at the meeting is one which nearly concerns the medical profession. When a commemorative tablet or statue to Gilbert White was spoken of the leading inhabitants of Selborne represented that a more fitting memorial would be a subscription to a fund to pay for the erection of pipes to convey water from the spring, of which Gilbert White wrote, into the centre of the village. At present the sources of water-supply are most precarious, inefficient and liable to pollution. There are rumours of zymotic disease in the neighbourhood, which make it high time that Selborne should put its house in order. We heartily concur in the suggestion and trust the scheme will be taken up and that the danger of Selborne becoming a nesting-place for disease will be averted.

RAILWAY TRAVELLING AND HEALTH.

UNDER this title Sir B. W. Richardson publishes an interesting article in *The Asclepiad* for the first quarter of this year. The subject is of universal interest in civilised countries, not only whilst travelling, but even when not doing so; for, great as is the human faculty for adaptation to circumstances, and however indifferent we may apparently become to customary noises, there can be no doubt that for dwellers in the neighbourhood of a line upon which there is much night traffic there must be much conscious or unconscious nerve unrest. To the sleepless invalid the piercing shriek of the nocturnal steam whistle must be intolerable. Although Sir B. W. Richardson does not directly deal with this aspect of the question, his remarks on the diurnal nerve disturbances caused by the bustle, hurry, excitement and noise of railway travelling are in the same vein. He very cogently points out that many of these dangers to health are remediable by forethought on the part of officials and travellers alike. Whilst it is the duty of the former to study the comfort of passengers from the ticket office to their

destinations by convenient arrangements and hygienic carriages, it is to the interest of the latter to regard this experience, as every other in life, with that patience and philosophy which are native to some, and must be acquired by all who would study their own well-being. That the continuous vibration of a railway carriage may cause considerable discomfort is a common experience; that it may in some persons and in some conditions of health produce alarming objective symptoms is shown by a case which Sir B. W. Richardson relates in his article in which there was temporary loss of power in the limbs. The more sensitive is the central nervous system the more will it naturally resent such continuous stimulation. On the other hand, there appear to be cases of blunted sensibility in which French physicians have found such vibration beneficial. As, however, a railway system cannot be constructed on the principle of studying the convenience of such exceptional persons, it is to be hoped that everything calculated to further irritate an overjaded generation will be avoided by our railway companies. Travellers, again, must remember that while express speed in a railway carriage is pleasurable rather than otherwise, in the ordinary incidents of private and public life it is "the pace that kills."

INCREASE OF LEUCOCYTES AFTER COLD BATHS.

IN the *Bulletin of the Johns Hopkins Hospital* Dr. Thayer gives a short preliminary account of some observations made at the hospital with reference to the occurrence of this phenomenon. Dr. Winternitz has found that in normal individuals, as well as in cases of fever, an appreciable leucocytosis is found as early as half an hour after the exposure to cold, and he suggests that this increase in the leucocytes is an important factor in producing the good result so often obtained in typhoid fever by means of cold baths. Dr. Billings, jun., and Dr. Thayer studied the conditions in several cases of typhoid fever and in one of pneumonia as well as in two healthy individuals, and their observations fully confirm those of Dr. Winternitz. As regards the different kinds of leucocytes, no marked difference could be discovered in the proportion before and after a bath. In the cases of typhoid fever the only constant change was a slight diminution in the multinuclear neutrophiles and a slight increase in the mononuclear forms. In the healthy individual no difference in the relative proportions of the different varieties could be made out after the bath. Several important points are left in the meantime unanswered, such as the place and *rôle* of the reaction after the bath, the influence of coldness and blueness of the parts from which the blood is taken upon the result, and the question whether the superficial blood and the deep venous blood have the same peculiarities. The effect of local applications of cold on the state of the blood has also not been determined, but no doubt light will be thrown on these points by future observations. As regards the red corpuscles, no constant change in their numbers or appearance seems to be caused by the cold bath.

FEVER HOSPITALS IN RELATION TO VACCINATION.

A PERUSAL of Dr. Joseph Priestley's annual report will convey some idea of the condition of things which is likely to obtain should the attitude adopted by Leicester in reference to vaccination be widely followed. When we read of patients who were admitted into hospital with scarlet fever contracting small-pox, and conversely of a "quarantined" person or two falling ill of scarlet fever, we can only express surprise that the sanitary authority have not made provision for giving their much-vaunted but now sadly discredited "system" a better chance. But beyond this we see a new danger threatening the isolation hospitals of the country should the exposure of this so-called "Leicester method" not teach the lesson which it ought to inculcate. Unfortunately there are even yet some drawbacks to hospitals for infectious diseases, and these can only be slowly, if ever, remedied. The impossibility, or at least the often grave difficulty, in the present state of our knowledge of diagnosing the infectious fevers during their incubative stages and initial manifestations is by no means the least of these drawbacks; and whilst this difficulty exists there must always remain the risk of introducing into a ward set apart for one disease a patient who, in addition to the disease for which he was admitted, is incubating another. Up to the present time, or at any rate since fever hospitals have been widely patronised, the chief danger has been that of introducing scarlet fever or measles into a ward intended for neither, as in a well-administered and freely ventilated ward there is little danger from the temporary sojourn of a case, say, of enteric fever amongst patients suffering from, for instance, scarlet fever, assuming, of course, that the patient attacked with enteric fever is also suffering from scarlet fever. In dealing, however, with the sudden development of small-pox in a ward devoted to the treatment of some other infectious disease, the danger of its spreading to the other patients is a very serious one, at least when all those other patients are—as by hypothesis they would be—unprotected by vaccination. If to the present unavoidable drawbacks of a fever hospital were to be added the dangers of small-pox, it is to be feared that the public would soon withhold the confidence they are now, in such a rapidly increasing degree, reposing in them. Let us hope, however, that Leicester has played the scapegoat to some purpose.

COCK-CROWING AND SLEEPLESSNESS.

COMPLAINT was lately made by the secretary of the Victoria Hospital for Sick Children of a cock-crowing nuisance in the neighbourhood of that institution. Every form of polite remonstrance was exhausted in vain, and the matter was finally brought before the local bench, which granted a summons against the keepers of the fowls. It appears, however, that some doubt may arise as to the jurisdiction of the court in the matter. We confess that we cannot recognise the justice of controlling its preventive power, especially in a case of such urgency as that in question. The need of interference is obvious. It is admitted that serious consequences have resulted from the crowing, and most of us have experienced at some time or other the peculiarly persistent disturbance of sleep which is thus occasioned. In the present instance the subjects of the annoyance are invalids, to some of whom a night's rest may easily turn the scale between illness or even death and recovery. In cases of infinitely less gravity the roadside organist or singer, whose notes are, after all, his means of livelihood, must be silent if called upon; the road-engine or steam-car must not endanger the ordinary course of traffic; the insanitary stye or stable is liable to be condemned. If it be not possible, on the same grounds of public utility and in circumstances of much greater urgency, to remove the hubbub of a clamorous fowl-yard, the sooner the needful power is acquired the better for the public health.

SUMMER FRUIT AS A CAUSE OF DISEASE.

NOTHING is more essential to method in learning than frequent reiteration, and it is therefore needless to plead excuses in seeking thus to impress even the elementary facts of sanitary science. It might be supposed that by this time every one understood the importance of observing particular care in the selection of a summer dietary, especially as regards fruit. Hardly any question of domestic management is either more vital or more elementary. Yet error continually arises in this connexion in the simplest way. A few days ago a child died soon after eating strawberries. Why? Because the fruit had been purchased two days previously, and, as was only to be expected, when eaten was in a state of decay. It is impossible to resist the impres-

sion that neglect had something to do with the sad result in this instance. Luscious fruits are particularly liable to putrefactive change, and such thrifty processes as exposure to a cold and dry air, spreading out and the like, suffice only to postpone decay for a brief period. We cannot do better than point to the incident above-mentioned in order to remind the vendor and the purchaser alike that freshness is the only certain guarantee of safety when any succulent fruit forms an article of diet. We have not forgotten that another hardly less serious danger of the season awaits those who indulge in fruit which is under-ripe. In this case taste as well as judgment commonly interpose a caution the importance of which can hardly be exaggerated. Yet here, also, the consequences of neglect have too often been sadly apparent.

THE DIFFUSION OF SMALL-POX.

WHILST some diminution in the extent and diffusion of small-pox is still in progress there are localities in which the disease is still very rife. West Ham is one of these. Over a hundred cases have occurred there during the last six weeks, 24 being notified during last week. Other places where important outbreaks have occurred and in which the number of fresh attacks during last week is known are: Blackburn, 4; Birmingham, 10; Bradford, 13; Halifax, 10; Leicester, 15; Manchester, 7; Oldham, 10; Wakefield, 9; and Walsall, 5. Fresh attacks have also occurred at Aston Manor, Burnley, Bury, Cambridge, Chadderton, Croydon, Guildford, Hanley, Handsworth, Keighley, Lancaster, Longton, Middlesbrough, Reading, Salford, Sheffield and Tottenham. In London the number of cases actually under treatment at the Metropolitan Asylums Board hospitals on the river has also again undergone a slight diminution, the actual number of patients under isolation on June 26th being 380. We have on several occasions referred to the spread of the disease through the agency of night shelters. The question whether such shelters as those which belong to the Salvation Army are to be dealt with by the local sanitary authorities in much the same way as is the case as regards common lodging-houses will probably now be settled, owing to the action which has been taken at the instigation of Dr. Waldo at the Southwark Police Court against the superintendent of one of those shelters in which a small-pox patient was found to have slept.

THE CUSTOMS AND PORT AUTHORITIES.

THE final decision of the Government not to grant an Imperial subvention to port sanitary authorities in aid of their special work for preventing the importation of cholera into this country would seem, from the explanations given in the House of Commons, to be largely due to some understanding to the effect that the Customs are to assist port officers in their work. This view gives especial interest to a report recently issued by Dr. Collingridge on the inspection of vessels at Gravesend. He points out that at the end of last year the Customs office, professing to be afraid of their officers becoming infected, announced that they would no longer consent to the Customs' visit and the visit of the medical officer of health being paid at the same time and from the same vessel. The Port of London authority in consequence went to considerable expense in providing a separate hulk, a second steam launch and further medical assistance; but at a later stage, apparently on the representation of the Local Government Board, the Customs officers were instructed by the Chancellor of the Exchequer to revert to their original practice of allowing the medical officer of health of the port to accompany them on their visit to every vessel and to render the port authority all possible assistance in carrying out the inspections required under the cholera regulations. From the announcement made in the House of Commons on Tuesday last it would appear as if some similar scheme was to be extended to other ports; but it remains to be seen how far the appliances of the Customs officers will admit of any reduction in the expenses to which port authorities are now being put, and it is evidently anticipated by many that such help as is given in the port of London will not be found available for any but a few selected ports. It is in view of this, we believe, that some Members have in contemplation to move the adjournment of the House, and if so we have not yet heard the end of the demand for an Imperial subvention in aid of work done for the prevention of cholera.

H.R.H. THE DUKE OF YORK.

WE are glad to be in a position to state that the somewhat extensively circulated rumours as to the illness of the Duke of York had no more substantial basis than the fact that His Royal Highness has been suffering from toothache, from which trivial if distressing disorder he has now completely recovered.

BROMIDE OF STRONTIUM IN EPILEPSY.

IN the May number of the *Johns Hopkins Hospital Bulletin* Dr. Berkley gives an account of his experience in the treatment of epilepsy with this new drug. The results are both interesting and gratifying. There was during the administration continued absence of the usual bromide acne, the somnolent effect was much less than with other salts and some of the patients were decidedly less quarrelsome and troublesome after their seizures than they had been whilst subjected to other courses of treatment. The dose given was about thirty grains three times a day. After five months the patients treated with this drug showed no tendency to relapse into their former condition.

"EPILEPTIC SLEEP SEIZURES."

IN a recent number of the *New York Medical Journal* Dr. George W. Jacoby writes on this interesting and, from the medico-legal point of view, extremely important subject. As he remarks, it is well known that many epileptics sleep after every convulsive attack, and that others do not, whilst some present no regularity in this respect but sleep after some seizures and not after others. But the class of cases which is dealt with in this paper is that in which attacks of sleep constitute the chief symptom and in some apparently the only one. The first case alluded to is that of a man of twenty-nine whose mother was subject to "nervous spells" all her life and one of whose brothers was epileptic. The patient was well until his twelfth year when, in consequence apparently of a fright produced by being chased by a dog, he fell down in a convulsion. He lost consciousness, frothed at the mouth and bit his tongue. This was the only true convulsive attack which he ever had. At the age of twenty-one he had a peculiar attack. Whilst walking with a friend and conversing on ordinary subjects he suddenly wheeled round, completing a full circle, and then began to run at full speed. After running about 500 feet he fell and was found by his friend lying on the ground apparently fast asleep. After about a quarter of an hour he awoke, but had no recollection of anything intervening between his conversation with his friend and his awakening. He remembered perfectly the subject of the conversation. The attacks gradually became more frequent, so that latterly he sometimes had several in one day. All the attacks that have been observed were of similar character to that described and no convulsion has ever been associated with them. A complete attack has never been witnessed in-doors, but he has been found asleep in various places and postures. The patient is also a somnambulist and as a child was subject to *pavor nocturnus*. Of the epileptic character of these attacks there can be no doubt. The second case was that of a barber. About ten years ago he rapidly increased in weight from 150 lb. to 267 lb. Four years since he sud-

denly fell asleep whilst shaving a customer. The attacks became increasingly frequent until they seized him several times a day in all positions and in spite of every effort on his part to prevent them. Some were slight and almost momentary, others of longer duration. During an attack his head fell forwards on his chest and his face became intensely congested. The attacks also occurred in bed. His ordinary sleep was very light and he frequently passed the greater part of the night in a semi-wakeful condition. He has been a somnambulist since childhood; and although when in this state he is usually quiet, he has been occasionally violent. No convulsion has been witnessed at any time, and treatment so far has been ineffectual. The remarkable increase in weight of this patient is very curious. A patient suffering from similar attacks, described by Dr. Morrison in the *Practitioner* of 1889, weighed 259 lb. These attacks are certainly, as Dr. Jacoby insists, of great importance medico-legally, just as are their congeners of petit mal, with which automatism is so often associated. Where such a condition is present it is important, if possible, to obtain corroborative evidence of epilepsy, and in the case of the last patient it is significant that the tongue showed scars and the patient confessed that it was often sore and swollen. But such evidence may not always be forthcoming, and then the nature and circumstances of the sleeping attacks and the absence of recollection or knowledge of them may have to be relied upon. Dr. Jacoby's object is to show that sleeping attacks, occurring alone or in combination with other symptoms, if of brief duration and followed by amnesia, are probably epileptic in character. If somnambulism is also present the probability becomes a certainty.

THE NOTIFICATION OF CHOLERA AND THE DRESDEN CONFERENCE.

A CURIOUS announcement comes from Vienna. It is stated that an official intimation has been given by France to the different Governments who signed the Convention at Dresden to the effect that cholera has broken out in the Department of Gard, in France; and it is further stated that the French Government is to be congratulated on having thus officially confirmed the news of the appearance of the epidemic on French soil. If this is the sort of information which is to be forthcoming as the result of the Dresden Convention we might just as well have remained without it. Every reader of a newspaper has known for months past that cholera has prevailed in epidemic form, first in the north-west and then in the south of France, and also that every effort has been made to minimise the significance of these occurrences. It was, we believe, at the instigation of France that the notification to be given to other countries by one that was infected with cholera was only to take place after an actual *foyer* had been created. We assume that a *foyer* is now regarded as having taken place. If so, our intimations of cholera from France will come long after European and other countries have known all about it, and after the necessary precautions against shipping from France have already been matured. Whatever difficulties there may be in determining what amount of cholera ought or ought not to be notified, one thing is certain, that to wait for the production of a *foyer* is to wait until the notification is useless. From this point of view the Dresden Convention already calls for modification.

SPINAL SYMPTOMS AND PHIMOSIS.

A CURIOUS and interesting condition is described by Solon Chomatianos in the *Progrès Médical* and an abstract of the paper appears in a recent number of the *Neurologisches Centralblatt*. The patient was an officer aged fifty-eight, who had always enjoyed good health and had never suffered from syphilis. His symptoms consisted of incontinence of urine, paresis of both lower extremities, ataxy in walking or in standing with his eyes closed, loss of the knee-jerk and finally immobility of the pupils to light. The patient suffered from phimosis, which had followed balanitis of two years' duration. There was no other sensory change or symptom of spinal disease, and after the phimosis had been relieved all the symptoms disappeared and the patient completely recovered.

THE LOSS OF H.M.S. "VICTORIA."

WHILST we are glad of the opportunity of offering our sincere congratulations to the medical officers whose names are amongst the list of those saved from this ill-fated vessel, we desire to add our expressions of sorrow and regret at what must be regarded as a great national calamity. The *Victoria* was a new and magnificent vessel, manned by the pick of the Mediterranean fleet, and carried the flag of one of our ablest and most popular admirals. The short interval that elapsed between the time that the ironclad vessel was struck and her sinking, the nerve-tension of the disciplined men during those few minutes, the great and sudden loss of life, and the whole circumstances strike the imagination and make the catastrophe one of the most tragical on record.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Jean Henri Auguste Festraerts, founder of the Belgian medical journal, *Le Scalpel*, at Liège, in his eighty-second year.—Dr. Stolbushinski, Senior Medical Officer of the Pleskau Provincial Hospital and Vice-President of the Provincial Medical Society, of typhus fever, contracted in the discharge of his duties.

IT is proposed to hold a public dinner at the Whitehall Rooms, Hôtel Métropole, on Monday, July 17th, to celebrate the grant of a Royal Charter to the Royal British Nurses' Association. Sir William Savory will take the chair, and the following is the first list of those who have consented to act as stewards: Sir Spencer Wells, Sir Richard Quain, Sir Joseph Fayrer, Sir James Crichton Browne, Sir Dyce Duckworth, Sir William Roberts, Sir Alfred Garrod, Sir Edwin Saunders, Sir Edward Sieveking, Sir Henry Thompson, Sir William Priestley, Sir Francis Jeune, Dr. Pavy, Dr. Gage-Brown, Dr. Heron, Dr. Bezly Thorne, Dr. Bedford Fenwick, Dr. Alderson, Mr. Erichsen, Mr. Thomas Smith, Mr. Brudenell Carter, Mr. Pickering Pick, Mr. Langton, Mr. Alfred Cooper, Mr. Owen Lankester, Lady Jeune, Lady Duckworth, Mrs. Bedford Fenwick, Mrs. Bezly Thorne, Miss Isla Stewart, Miss Thorold, Miss De Pledge, Miss Grace Gordon, Miss Georgina Scott, and Mrs. Borrodaile Savory. The price of the tickets will be one guinea, and they can be obtained from the Secretary, 8, Oxford-circus-avenue, W.

A COURSE of free lectures (as required by the will of the late Mr. Brown) was commenced by the Professor-Superintendent of "The Brown Animal Sanatory Institution," Mr. Charles S. Sherrington, M.A., M.D., on June 28th. The next two lectures of the series will be delivered in the theatre of the University of London on July 5th and 12th, at 5 P.M., the subject being the Introduction of Substances into the Circulation and Knee-jerk respectively. In October and November a scientific demonstration will be given at the Brown Institution, Wandsworth-road, and also a popular lecture to working-men.

SIR SAVILE CROSSLEY, Bart., has sent the Lord Mayor £20 for the H.M.S. *Victoria* Relief Fund, and also a further donation of £1000 in aid of the Hospital Sunday Fund.

DR. P. GUTTMAN of the Moabit Hospital, Berlin, whose death is much deplored, has left, in addition to other charitable legacies, a sum of £500 to that hospital for the purpose of assisting patients who have to leave the hospital in a penniless condition.—Professor Renvers has been appointed Medical Director of the hospital in the place of the late Professor Guttman.

THE University of Siena proceeded, on June 22nd, to elect its Rector, and after a keen competition between Professor Guaita, who holds the chair of Ophthalmology; Dr. Cantieri, Professor of Clinical Medicine; and Dr. Domenico Bardazzi, Professor of Dermatology and Syphilis, the latter was declared elected by a large majority.

THE members of the "United Faculties" Club of the University of London dined together on Wednesday, the 28th inst., at Richmond. Dr. Reginald Eager was an excellent chairman. Sir Philip Magnus proposed "The University of London" and Dr. Pye-Smith "The United Faculties Club."

IN consequence of the Hunterian Exhibition and the election of members of Council, the library of the Royal College of Surgeons will be closed from July 3rd to July 8th inclusive.

THE new laboratories and the dental school buildings of Guy's Hospital were opened on Monday, 17th inst., by the Right Hon. Sir John Lubbock, Bart., M.P., F.R.S.

THE Goldsmiths' Company have sent a donation of £3000 towards the fourth quinquennial fund of the London Hospital.

DR. HALE WHITE has been appointed to fill the vacant secretaryship of the Clinical Society.

A SERIOUS ERROR IN DISPENSING.—The French papers give an account of a serious error committed by a pharmacist in the Côtes-du-Nord in dispensing the following prescription: Antipyrin, 2 grammes; aconitin, 6 milligrammes. He mistook a six-centigramme weight for a six-milligramme one and thus dispensed ten times the intended dose of aconitin. He did not discover his blunder until an hour afterwards; he then hastened to the patient's house, and, finding that he had just taken the medicine, promptly administered an emetic, but unfortunately did not succeed in saving his life.

OPENING OF THE LONDON HOSPITAL CLUBS UNION GROUND.—The new recreation ground recently acquired by the London Hospital Clubs Union at Lower Edmonton was formally opened on Wednesday last by Lady Clark, in the presence of a large number of those interested in the London Hospital. Lady Clark was received by Dr. Gilbart-Smith, Dr. Stephen Mackenzie, Dr. Ralfe, Mr. Openshaw, Mr. Roberts (the house governor of the London Hospital), Mr. Munro Scott (warden of the Medical College), and the members of the general and financial committees. Mr. Treves explained that the ground had been obtained by the amalgamation of all the students' clubs of the hospital, and congratulated the students on the acquisition of a suitable recreation ground within a convenient distance of the hospital. The flag of the Clubs' Union was then unfurled by Lady Clark amid much cheering, and during the playing of the National Anthem the ground was formally declared open. The company then adjourned to witness a cricket match between teams representing the past and present students of the London Hospital. Amongst the representatives of the "past" was Mr. Walter Rivington, consulting surgeon to the hospital. During the afternoon a choice selection of music was rendered at intervals by the band of the 2nd Tower Hamlets Rifle Volunteers.

THE LANCET

Analytical Commission

ON

TANNIN AND THEINE IN CHINA AND INDIAN TEAS.

LONG before the alkaloid theine or caffeine was isolated and recognised by the chemist instinct had led mankind, curiously enough, to select for the preparation of a beverage, only those plants the leaves or seeds of which contained this essential and valuable constituent. Thus caffeine or theine (the terms are now synonymous, as it has recently been shown that the alkaloids of tea and coffee are identical) occurs not only in the dried seed of Coffea arabica and the dried leaf of Camellia thea, but also in the leaves and twigs of Ilex paraguayensis maté or Paraguay tea; in the dried pulp of the seed of Paullinia sorbilis, guarana or Brazilian chocolate; and in the kola nut, Sterculia acuminata of West Africa. Tea, however, is, *par excellence*, the theine yielding plant and its consumption is enormously out of proportion compared with the other plants; but associated with the theine is also tannin, and tea is practically the only member in the foregoing group of plants in which it occurs in any important quantity. The proportion of tannin in tea appears to depend upon climate and upon the nature of the soil upon which it grows. Thus the Indian teas commonly contain the largest proportion of tannin, the Ceylon teas an intermediate amount and the teas of China the smallest quantity. The last-named country must be regarded, however, as the true home of the tea plant, for though its introduction to and cultivation in India and Ceylon have met with extraordinary success the plant is strictly indigenous to China.

The injurious results of tea, unless it is drunk to great excess—for it must be borne in mind that the alkaloid itself is a marked poison,—are commonly and not unreasonably ascribed to tannin, since this substance is known to produce well-marked gastric and nervous disturbances. It would be too much, perhaps, to assert (but the thought occurs to us) that, after all, it is not absolutely improbable that the tannin is a kindly provision of nature intended to warn the drinker when the tea is too strong and when it contains more theine than is good for him. It is a suggestive fact, at any rate, that coffee and cocoa, which contain insignificant quantities of tannin, contain also proportionally small quantities of theine. To eliminate the tannin and to retain the theine, to separate the virtuous from the vicious principles, has long afforded a favourite topic for both popular and scientific writers. The subject, in fact, is a well-worn one, but, nevertheless, the following experimental investigation which was recently undertaken in THE LANCET Laboratory is not without some interesting features, since it has been conducted on somewhat novel lines, the results yielded being of a more practical character perhaps than those afforded by any preceding inquiry.

The actual composition of the tea leaf has not been studied in this investigation, but the constituents of a cup of tea, as it is ordinarily made and presented to the drinker, have been determined. Pure Indian and China teas were alike the subject of experiment, and the advantages that may accrue from the use of one kind over the other are indicated in the results that follow. A breakfast-cup was taken as the standard of measure of the water employed and a teaspoonful the standard weight of tea. An ordinary breakfast cup was found to hold almost exactly ten fluid ounces or half a pint of water, whilst a moderately heaped-up teaspoonful of tea weighed nearly forty grains (38·6). This quantity of tea was infused in ordinary tap-water just raised to the boiling point over a gas-burner and then allowed to stand for intervals of five and fifteen minutes respectively. After that time the decoction was gently decanted and submitted to analysis for alkaloid, tannin and total extracted matter. Four kinds of tea were experimented with, of which three were a special China growth and the fourth an Indian specimen. The results represent the quantity in grains of dissolved constituents in a

breakfast-cupful of infusion, equivalent to a teaspoonful of tea leaf:

TABLE I.

Composition of a Cup of Tea equal to an Infusion of One Teaspoonful (40 grains) of Leaf in 10 ounces of Water.

Constituents.	Infusion, five minutes. No. 1. Czar's Rose Blend, 3s. 6d.	No. 2. May Pickings, 3s. 6d.	No. 3. Special China Blend, 3s.	No. 4. Indian, 2s. 10d.
	Grains.	Grains.	Grains.	Grains.
Extract ..	8·98	8·64	10·18	10·95
Tannin ..	1·08	0·89	1·73	1·54
Theine ..	1·26	1·26	1·45	1·28
	Infusion, fifteen minutes.			
	Grains.	Grains.	Grains.	Grains.
Extract ..	10·44	10·18	10·89	12·69
Tannin ..	1·12	0·92	1·26	1·73
Theine ..	1·26	1·32	1·45	1·29

To these results may now be added the analyses of the infusions of the same teas, but which had been submitted to three hours' boiling, not with tap-water, but with distilled water. The figures probably represent the actual composition of the tea as regards tannin, theine and extract.

TABLE II.

Composition of Infusion after three hours' boiling in Distilled Water, Proportion of Leaf to Water as in Table I.

Constituents.	No. 1. Czar's Rose Blend.	No. 2. May Pickings.	No. 3. Special China Blend.	No. 4. Indian.
	Grains.	Grains.	Grains.	Grains.
Extract ..	12·70	12·10	12·79	15·81
Tannin ..	2·00	1·80	2·407	3·91
Theine ..	1·29	1·41	1·54	1·34

Finally, the results of infusing No. 4 (the Indian tea) for fifteen minutes in boiling distilled water are of especial interest, as the solvent influence of the water is apparently modified by the presence of certain salts in solution.

TABLE III.

Cupful of Indian Tea—Leaf infused fifteen minutes in boiling distilled water.

Constituents.	Indian Tea, No. 4.
Extract	12·69 grains.
Tannin	2·31 ,,
Theine	1·32 ,,

Comparative amounts of theine and tannin in Indian and China teas.—It will be seen from Table II., which practically represents the total amount of tannin, theine and extract constituents of tea, that, whilst the Indian tea is richer than the China tea in respect of tannin principles, it contains a slightly reduced amount of theine. It is not true therefore, according to these experiments, that China teas, though containing considerably less of the objectionable constituent tannin, contain also a smaller proportion of theine. In but one instance (Tea No. 1) does the proportion of theine fall lower than the Indian tea, and then to the insignificant extent of 0·05 gr. to the breakfast-cupful.

Influence of time allowed for the infusion upon the proportion of constituents dissolved.—It is found that practically all the alkaloid is dissolved in from five to fifteen minutes, whilst in that time there is very little increase in the amount of tannin dissolved. When, however, the tea is allowed to stand for more than fifteen minutes the maximum amount of tannin as well as of theine in solution is approached. Consequently tea should never be allowed to stand longer than fifteen minutes at the most, and probably half this time is sufficient to dissolve nearly the whole of the theine, whilst less than one-half of the total tannin will be taken up. Both kinds of tea—China and Indian—appear to yield their soluble constituents at the same rate; but it should be remarked that the infusion made from China tea, which contains a comparatively small proportion of total tannin, may contain only as much tannin after even three hours' boiling as is contained in a fifteen-minutes' infusion of Indian tea. In the China tea (No 2 in Table II.), for instance, there are present only 1·80 grains of tannin to the breakfast-cupful after three hours' boiling in distilled water, an amount which probably represents the maximum yield; whereas in the case of the Indian tea, yielding the same amount of alkaloid, the tannin was practically the same after infusing in boiling tap-water for fifteen minutes (*vide* Table I.) and as much as four grains after only five minutes' infusion.

Influences of the character of the water used upon the proportion of constituents dissolved. — The proportion of soluble constituents taken up by water depends very much upon the character of the water used. When ordinary tap-water is used it appears to exert a deterrent action upon the solubility of the tannin compounds, without, however, similarly affecting the theine. This is illustrated in the above results in Table III., in which tea No. 4 (Indian) was infused for fifteen minutes in distilled water and a separate portion for fifteen minutes in ordinary tap-water of 20 degrees hardness (the New River supply). As will be seen by comparing these experiments (Tables I. and III.) there is a very distinct difference in the quantity of tannin extracted, although the theine and the extract amount to practically the same. This difference is very possibly due to the presence of mineral salts in the water, especially of carbonate of lime, which is precipitated on boiling, forming, it may be, an insoluble lime salt with the tannin. A simple experiment showed in support of this notion that a precipitate is produced when ordinary lime water is added to a solution of tannin.

The results to which these experiments have led may thus be generalised:

1. There is an important difference in the amount of tannin but not of theine in these China and Indian teas. The China teas contain from 5 to 6 per cent. of tannin and the Indian teas an average of 10 per cent. In both the theine amounts to practically the same—averaging 3·4 per cent.

2. Distilled or softened water, or water to which carbonate of soda has been added, dissolves the tannin more rapidly, but effects no increase in the amount of theine dissolved; the practice of adding carbonate of soda to the water, therefore, is not to be recommended. Moderately hard water used the moment it reaches boiling point effects just as rapid a solution of the valuable principle theine as distilled water, whilst the objectionable tannin is not so rapidly dissolved.

3. China teas may safely be left to infuse for a longer period of time than Indian teas; for the former even fifteen minutes may be allowed without fear of dissolving an excess of tannin, but for the latter not longer than five, or at most seven, minutes is advisable.

4. Tannin, of course, imparts astringency to tea; but this constituent is not wholly concerned in producing an infusion of the desirable body and strength, for the theine and tannin together amount to only one-fourth of the total extractive matter present, except in some instances of Indian teas, which are particularly and undesirably rich in tannin.

5. The best results are obtained when the tea is powdered immediately before use. The flavour is then exquisite, complete extraction of the theine is ensured and, provided the infusion is allowed to stand for only five or seven minutes, a minimum of tannin is dissolved and no sacrifice of body or strength is perceptible. The remarks in Section 2 also apply here.

The Indian tea No. 4 used in this investigation was obtained by private purchase; the China teas were supplied by the Russian-China Tea Company, which has been established with the avowed object of supplying Chinese plantation teas in the United Kingdom as imported into Russia.

THE annual meeting of the Countess of Dufferin's Fund will be held on Wednesday, July 12th, at 3.30 P.M., at 24, Park-lane, by kind permission of the Right Hon. the Lord Brassey, K.C.B.

CHOLERA CAUSATION AND PREVENTION AT HOME AND AT HAMBURG.

BY R. THORNE THORNE, M.B., C.B., F.R.S.

Specially reported for THE LANCET.

THE following notes taken from a lecture delivered at St. Bartholomew's Hospital on Tuesday last by Dr. Thorne Thorne will at the present moment have general interest. The circumstances under which Hamburg suffered from an epidemic of cholera whilst Altona escaped have also an important bearing on the question of river water-supplies. Dr. Thorne, in the first place, explained the alternative systems adopted by continental Powers and this country to prevent the importation of cholera. Up to a recent date the continental Powers had relied essentially upon a rigid quarantine system. Quarantine as applied to the Thames, for example, would mean the detention of all vessels coming from infected ports for a period varying from ten to five days according as the conclusions of the Constantinople Conference or of the Rome Conference were accepted. During that period healthy and sick alike would be prohibited from having any communication with the shore. If during the quarantine detention a case of cholera occurred on board the whole of the crew and passengers, together with the ship, would have to go through a second period of detention and so on as long as any fresh attacks occurred. In the meantime shipping would be accumulating and the result for us would become a mere absurdity. And not only so, but half-a-crown would any night secure a boatman's service for landing on the river banks. In short, the system would only have to be applied to ensure its immediate breakdown.

England decided against quarantine for another reason. If the people in this country were told that a line had been drawn round England to keep out cholera a death blow to our sanitary administration would at once be dealt. Since they have been told that cholera cannot with certainty be kept out of the country, and that they themselves must be prepared to deal with it if it is imported by maintaining their districts in such a sanitary condition that the disease shall not spread if it should make its way into them, eight millions sterling have been spent in sanitary works every year and hundreds of thousands of lives have been saved from typhoid fever and other epidemic diseases. The general mortality has also largely decreased and a Frenchman—an old fellow-student of his—who is now at the head of the public health service in France, has calculated that, according to the estimate of human life by Dr. Farr and other English authorities, taking all the millions we have spent and all the lives that have been saved (I forget the exact sum), we have just got our money back. It might almost seem as if we had done it on purpose. No greater calamity could happen to this country than to apply the system of quarantine. Quite recently the French seaports of Boulogne and Calais were both infected with cholera, but its extent did not become public and very little was known regarding the outbreak. Only a few occasional cases were heard of until THE LANCET sent a commissioner to investigate the circumstances and to elucidate the facts. Then the full extent of the epidemics in these places for the first time became known in this country.

Continuing, Dr. Thorne said: "But at Dover alone in one week in August 5800 people arrived at the port. What would Dover have done had she been obliged to quarantine them? They could not have them in the harbour at night, for they could easily have escaped; they could not have them on land for a similar reason. If they had put them to sea they would probably have been sunk by the first tempestuous wind. The attempt would be perfectly ridiculous and could be attended by nothing but disaster."

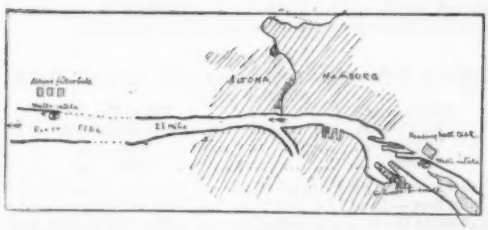
But it had been asked, why could not such a port as Hamburg, where so great an epidemic prevailed, be quarantined? The answer was, that Hamburg had practically placed itself in quarantine. Its shipping and its commerce had practically come to a standstill, but both passengers and goods reached this country by alternative routes, the Hamburgers travelling to England *viâ* Dutch, Belgian and French ports. In short, the application of quarantine by this country to one important European port would involve the placing in quarantine of a multitude of other ports.

Quarantine was also a cruel process. That was best exemplified by reference to land quarantine, as, for example, during the Egyptian outbreak of 1883, when villages and communities were surrounded by troops with loaded rifles and bayonets. Any person taking food within the prohibited line would be subject to the same quarantine as the villagers, and it is believed that land quarantine has often destroyed more lives by starvation and misery than would have been sacrificed to cholera. But land quarantine, too, is essentially inefficacious, the line being broken without difficulty, whether in Egypt or elsewhere, by all who can afford to pay their tribute of baksheesh.

For England the abandonment of quarantine has been an almost unmixed good. The knowledge that no pretence would be made to keep out all chance of cholera in this country has done more perhaps than anything else to induce our sanitary authorities to spend their money on great works of sanitation and on such improved sanitary administration as is likely to prevent the spread of any imported disease of the type of cholera. Millions have been spent to this end; but, on the other hand, hundreds of thousands of valuable lives have been saved. Even if cholera should once more succeed in passing the barrier of our ports and diffusing itself inland and cause a heavy mortality, we should still be enormously the gainers in point of human life by the system which we have so deliberately adopted; but there is no doubt that our system is rather calculated to prevent than to lead to such a contingency.

After describing in some detail the system of medical inspection with isolation that is adopted in our port districts, a system which is well known to our readers, the lecturer explained that a much greater approach to this system had been arrived at at Venice and again at Dresden this year. He then proceeded to give an account of the natural history and the etiology of cholera, basing his facts on the results of a recent visit to Hamburg and of personal conferences with Professor Koch and Dr. Reincke, the health officer of Hamburg. Use was also made, for the purposes of illustration, of the theory of Professor Pettenkofer, to the effect that *x*, the cholera bacillus, together with *y*, the local circumstances, and *z*, the personal predisposition, were all necessary to the production of cholera in the human subject.

Reverting especially to the Hamburg epidemic, which caused some 18,000 cases, with over 8000 deaths, last autumn, the question arose how Hamburg received its first infection. According to Professor Koch and Dr. Reincke this might have arisen from two causes, probably from both. In the first place, cholera certainly prevailed amongst the Russo-Jewish emigrants who were detained in huts on the banks



of a dock to the south of the Elbe (D in diagram). The sewage of these people, of whom the lecturer had seen a thousand aggregated together at one time, would pass by means of tidal influence into the main body of the stream, and it was described how under the then condition of things this material could have been carried up to and beyond the point at which Hamburg takes its water-supply from the river (C). But it cannot now be proved that recognised cholera actually prevailed amongst these emigrants from cholera-infected Russian provinces before the date of the first cases in Hamburg city. But there was another source of danger. Havre suffered from cholera before the commencement of the Hamburg outbreak, and vessels from that port were lying in the Elbe not far from the point of the Hamburg water-intake. Some vessels of differing nationality indeed were at that time moored just above the intake.

Proof was then adduced to the effect that the outbreak in

Hamburg was indeed a water outbreak, and by means of diagrams it was shown that although Hamburg and Altona are practically one great city, the boundary between the two being no more marked than that between the City of London and the Holborn district, yet a dotted map showed the occurrence of the cholera in the individual houses and streets, and proved conclusively that the boundary line between the two towns formed the line of division between an epidemic diffusion of cholera on one side and the absence of an epidemic on the other. One diagram showed this very effectively. At many points, and especially along the river side, no difference existed between Hamburg and Altona except that of a different water-supply. Hamburg taking the polluted Elbe water within its own precints, distributed it in its original state direct to the city—and its means of pollution have already been indicated. But whence did Altona get its water? The remarkable fact remains that Altona takes the Elbe water also, and at a point considerably further down the river; and not only so, but it takes it after it has received the sewage of some 800,000 people living in Hamburg and in Altona, and after it had last autumn received the cholera discharges of some 18,000 persons attacked with that disease; and further, the point of intake (B) is at a spot where, according to Professor Koch, the sewage hugs the bank of the stream.

But Altona, unlike Hamburg, has a system of filtration, the water being carefully filtered through sand and gravel filters. But it was not sand and gravel filtration that prevented the cholera organisms from being delivered to Altona. On the contrary, whenever by an accident the sand filtration alone was in operation, Altona did, as a matter of fact, at once get occurrences of cholera within its boundaries. The comparative safeguard, according to Professor Koch, was supplied by a slimy coating which formed on the surface of the filter beds. This coating consisted of the deposit of river mud, organic matter, *débris* and micro-organisms. And it was this slimy coating which, whilst admitting of the passage of the water through it, was found capable of holding back most of the vast number of micro-organisms with which the water in its natural state was charged. Some crucial instances in proof of this were afforded accidentally. Thus, when, owing to frost, the layer of slime and mud had frozen and had to be removed, its removal was followed by an outbreak of cholera in Altona. And, as bearing on the question of water pollution, a diagram was exhibited of a court within the Hamburg precincts (A) containing a large aggregation, amounting to 400 in number, of precisely those classes amongst which cholera so much prevailed, but amongst which no single case occurred during the whole epidemic, and this although the spot-map showed that the disease prevailed all around in Hamburg. Owing to certain local difficulties the Hamburg water could not be laid on to this large yard, and permission was obtained to convey water to the inhabitants from the Altona mains. Other instances, of similar proof as to water pollution being the cause of the cholera, had been procured by Professor Koch. It was, however, urged that, even according to Professor Koch himself, the "very best filtration" cannot be relied on to "keep back all micro-organisms," whether of cholera or other diseases.

The lecturer concluded by a reference to river valleys as affording the *y* of Professor Pettenkofer under circumstances most favourable to cholera recrudescence, and it was claimed for England that although there remain communities which were exposed to risk of cholera should the *x* be imported and gain access to her polluted rivers and gathering-grounds from which public water-services are derived, yet for fifty years work had steadily been going on which tended every year more and more to remove the *y* which Professor Pettenkofer held to be essential to cholera. And it was urged that quite apart from the question as to the necessary existence of the *y* in facilitating the diffusion of the infection, it was the bounden duty of all sanitary authorities to assume, in so far as their administration was concerned, that *x* alone, which was derived from the alimentary discharges of the sick, should never gain access to their water-services and should never be admitted into drains or sewers unless first destroyed by disinfection or otherwise.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following have been elected Examiners for the Conjoint Examinations of the College and the Apothecaries' Hall:—Anatomy: Montgomery A. Ward; Surgery: Arthur Chance; Physiology, Histology and Biology: George White; Pathology: Charles Coppinger; Ophthalmology: F. Odevaine.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COMMITTEE.

A MEETING of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held on June 21st at 5 P.M. Mr. George Pollock, the president, occupied the chair, and was well supported.

The minutes of the last meeting were read and confirmed.

Letters of regret at inability to attend were read from Mr. Mayo Robson, Mr. Vincent Bell (Rochester) and Mr. George Jackson (Plymouth).

The arrangement of the agenda for the annual meeting of the Association fixed for the following day was the chief subject which occupied the attention of the committee, and after its completion a list of officers for the ensuing year was drawn up for submission to that meeting.

A discussion arose concerning the conduct of meetings of Fellows of the College, as illustrated by the proceedings at the meeting of Fellows called last year by the Council of the College, and held in the theatre of that institution on the day of the annual election. It was unanimously resolved to bring under the attention of the Council of the College the expediency and desirability of framing the proceedings of these meetings in accordance with the rules which usually govern the conduct of meetings of other public bodies.

The honorary secretary reported that he had sent out to all the Fellows of the College whose addresses were known the circular letter which had been drawn up by a subcommittee and had been adopted by the committee at the last meeting. He also reported that he had issued to the members of the Association a postcard with the following announcement:

39, Welbeck-street, Cavendish-square, W.,
June 17th, 1893.

DEAR SIR,—The committee of the Association of Fellows of the Royal College of Surgeons of England has invited Mr. Macnamara, Mr. A. T. Norton and Mr. Mayo Robson to represent the Association at the Council election in July next. It is earnestly hoped that you will be able to record your vote in their favour. Voting papers should be applied for on or before Saturday, June 24th, and returned to the College not later than Monday, July 3rd, 1893. The annual general meeting of the Association will be held at the Medical Society's rooms on Thursday, June 22nd, at 5 P.M., Mr. George Pollock, president, in the chair.

Yours faithfully,
Signed on behalf of the Committee,
H. PERCY DUNN, Hon. Sec.

On the completion of the foregoing business, which occupied about an hour and a half, the committee adjourned.

ANNUAL GENERAL MEETING.

The annual general meeting of the Association of Fellows of the Royal College of Surgeons of England was held at 5 P.M. on Thursday, June 22nd, at the rooms of the Medical Society of London. In the unavoidable absence of Mr. George Pollock, the President, who had been called from town, Mr. William Allingham occupied the chair. Several members of the Association sent letters of regret at inability to attend and a telegram from Mr. Gant was received to a similar effect. In the course of his address the chairman reviewed the proceedings and progress of the Association during the past year, and dwelt especially on the concessions which, at the instance of the committee of the Association, the Council of the College had made to the Fellows, especially in regard to calling the Fellows together separately from the Members for consultative purposes. A meeting of Fellows had been called and held in the theatre of the College after the election on July 7th last year, but that was not a favourable instance of what such meetings should be, as no notice was given to the Fellows of the subjects they were summoned to discuss, and the proceedings were marred by a regrettable incident which was still fresh in the memories of the Fellows and need not be more particularly recalled. It was so far satisfactory in that it was an acknowledgment on the part of the Council of the expediency of calling the Fellows together, but it left much to be desired and accomplished, for there were no agenda, and the only matter submitted to the meeting was the proposal of the Council to celebrate the jubilee of the Fellowship in July 1893. The gratifying success obtained by the Association in the election of Mr. Tweedy, who stood second on the poll, was a clear indication that the Association was making progress in the

confidence of the Fellows generally, and it was to be hoped that the three candidates—viz., Mr. Macnamara, Mr. Norton and Mr. Mayo Robson, who are representing the Association at the election on July 6th, would obtain sufficient support to be returned to the Council. It must not, however, be forgotten that as there were no less than eleven candidates for four vacant seats there would be a great variety of interests involved and there might be a good deal of cross voting which would necessarily render the issue doubtful. If, however, the members of the Association followed the lead of the committee there could be little doubt that success would be obtained.

At the conclusion of the chairman's address, which was warmly applauded, the honorary secretary read the auditors' report for the past year. From this it appeared that the subscriptions of the members, with the assistance of donations, more than covered the heavy expenditure and that a satisfactory balance remained in the hands of the treasurer. As, however, further expenditure would be incurred in connexion with the election on July 6th, it was hoped that all the members of the Association who had not paid their subscriptions for the past and current year would send them to the honorary secretary without delay. The auditors' report having been duly proposed and seconded, was unanimously adopted.

The following resolution, proposed by Mr. George Helm (Truro) and seconded by Mr. C. B. Keetley, was unanimously passed: "That the Association of Fellows of the Royal College of Surgeons of England pledges itself to use its utmost endeavours to secure the return of the three candidates representing the interests of the Association—viz., Mr. Macnamara, Mr. A. T. Norton and Mr. Mayo Robson—at the College election on July 6th, 1893."

This resolution was acknowledged by Mr. Norton, who, after expressing his thanks for the confidence which had been placed in him by the Association, pointed out that when the Association was formed he suggested certain points of reform which were subsequently adopted by the Association in the interests of the Fellows and for the improvement of the government of the College. He was entirely favourable to the policy of the Association in working to raise the status of the Fellows of the College to the level of that of the Fellows of the Royal College of Physicians.

Mr. Holmes observed that he had listened with great pleasure and satisfaction to what Mr. Norton had said. The Council of the College of Surgeons was a body of great respectability and such a body was therefore slow to change. In order, however, to obtain the reform for which the Association was striving a numerical majority on the Council pledged to support the views of the Association was absolutely necessary. Nevertheless, even at the present time the Association had in the Council of the College an influential following. It was a mistake to suppose that there was anything of a radical character in the changes for which the Association was contending, but it was true that they involved a considerable amount of reform. A great effort should be made to return to the Council the candidates recommended by the committee.

It was then proposed by Mr. C. B. Keetley and seconded by Mr. Holmes "that the Council of the Royal College of Surgeons of England be asked to arrange that the meetings of the Fellows separately from the Members be conducted on the lines of ordinary meetings and furnished with agenda, minutes &c." To this an amendment was moved to the effect that the meetings should be called at the discretion of the Fellows, who should frame the agenda &c. In the course of the discussion which ensued Mr. Rivington said he could not vote for the amendment. He thought that the Council of the College could not be expected to agree to give up the control of meetings at the College or to part with their authority and right to summon meetings of Fellows or Members. He would prefer a resolution in favour of organising meetings of Fellows after the model of Convocation at the University of London. Convocation possessed its own chairman and clerk; agenda were issued, the business transacted was printed and circulated and Convocation appointed an annual committee, which reported on all subjects of interest to the members of Convocation. It might be recollected that at the meeting of Fellows held last July at the College one of the members of the Council, a graduate of the University of London, expressed an opinion in favour of an arrangement of this kind, and another member of the Council, also a graduate of the University, whose recent decease was a great loss to the Council, held similar views. To word the motion in the way he suggested would bring it into line with the circular letter just issued, and would give it a definite character which everybody would understand.

The mover and seconder having accepted the suggestion, the motion was amended and passed unanimously in the following form:—

"That the Council of the Royal College of Surgeons of England be asked to arrange that the meetings of the Fellows separately from the Members be summoned regularly and be properly organised after the model of Convocation of the University of London."

The following is the list of officers elected by the Association for the ensuing year:—President, Mr. George Pollock; Vice-Presidents, Mr. Timothy Holmes and Mr. Walter Rivington. Treasurer, Mr. John Tweedy. Auditor, Mr. John H. Morgan. Honorary Secretary, Mr. H. Percy Dunn. Committee: Mr. W. Allingham, Mr. H. Allingham, Dr. Robert Barnes, Mr. Wickham Barnes, Mr. Vincent Bell, Mr. E. R. Bickersteth, Mr. Bruce Clarke, Dr. W. J. Collins, Mr. John Couper, Dr. Ward Cousins, Mr. Richard Davy, Mr. Alban Doran, Mr. F. J. Gant, Mr. George Helm, Mr. Victor Horsley, Mr. George Jackson, Mr. C. B. Keetley, Mr. Jordan Lloyd, Mr. A. T. Norton, Mr. J. J. Purnell, Mr. W. T. Square, Mr. Manley Sims and Mr. C. Steele.

A vote of thanks to the Chairman, proposed by Mr. Wickham Barnes and seconded by Mr. Muirhead Little, was carried by acclamation, and brought the proceedings to a close.

THE JUBILEE OF THE FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE arrangements for the celebration of the jubilee of the Fellowship of the Royal College of Surgeons of England have been settled by a committee composed partly of the members of the Council of the College and partly of Fellows not on the Council. The following programme has been issued:—

Wednesday, July 5th: Conversazione at the College, 9 to 12 o'clock.

Thursday, July 6th: Address by the President in the Theatre of the College at 1 P.M.; Ballot for election to the Council, 2 to 4 P.M; Fellows' dinner in the Whitehall Room of the Hôtel Métropole at 7.30 P.M.

The hon. secs., Mr. Alfred Willett and Mr. F. Woodhouse Braine, have sent out a circular to the Fellows announcing that the dinner of the Fellows of the College will be held in the Whitehall Room of the Hôtel Métropole at 7.15 for 7.30 P.M. precisely, and that Sir James Paget, Bart., F.R.S., has kindly consented to take the chair. Fellows desiring to be present are requested to apply as early as possible to Mr. Woodhouse Braine at the College, sending him the sum of 25*s.*, on receipt of which a dinner ticket will be forwarded. A good muster of Fellows is expected. The acceptances at present are about 100.

THE GRAND PRIORY OF THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

THE Order of St. John, on behalf of which the Prince of Wales unveiled on Saturday last the restored buildings of St. John's Gate, Clerkenwell, as a memorial to the late Duke of Clarence and Avondale, is of special interest to the medical profession. The Order, or, to give its full official title, the "Grand Priory of the Order of the Hospital of St. John of Jerusalem in England," is a revival by the Queen of the English "Langue" of the Knights Hospitallers, a body which was dissolved by Henry VIII. in 1541, but which was never completely extinguished. It was reorganised as a philanthropic society in the first half of the present century, and the members were largely concerned in originating the Red Cross Society, by which so much has been done to diminish the sufferings consequent upon war. They also established the whole system of the "St John Ambulance Association," an ophthalmic hospital at Jerusalem, a distribution of diets to discharged hospital patients in England, and the grant of rewards to persons who saved the lives of others at imminent

peril to their own. The work of the Order came to be favourably regarded by exalted personages, and, in 1888, the Queen was pleased to re-establish it by Royal Charter, to accept the office and title of "Patron," and to appoint the Prince of Wales to be Grand Prior. The late Duke of Clarence and Avondale became Sub-Prior, and has been succeeded in that capacity by the Duke of York. Since the grant of the Charter all admissions to the Order require the approval of Her Majesty, and the insignia are worn at Court and on public occasions. As is natural in a body devoted to works of philanthropy in relation to the sick, several members of the medical profession have been admitted as members; amongst others, Sir Andrew Clark, Sir Edward Sieveking, Sir Guyer Hunter, Sir Dyce Duckworth, Mr. Brudenell Carter, Dr. William Collingridge and Mr. Wakley; whilst many more have been made "Honorary Associates," chiefly in recognition of work done in teaching the ambulance classes for "first aid to the wounded" which have now been formed in almost every part of the Queen's dominions. His Royal Highness the Grand Prior is understood to take a lively and constant interest in the work of the Order, and has annually distributed the medals or certificates which have been awarded for saving life in the circumstances above mentioned.

The following members of the medical profession have been selected as members of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England or for enrolment as Honorary Associates of the Order, and their selection has received the approval and sanction of Her Majesty the Queen, the sovereign head and patron of the Order:—

Knights of Grace—William Collingridge, M.D.; Thomas Wakley, F.R.C.S. Eng. These two gentlemen have been for some time past on the roll of the Order as Honorary Associates.

Ambulance Department:—Honorary Associates—Surgeon-Captain Henry Fraser Stokes; Surgeon-Captain Richard R. Sleman; George Sterling Rogerson, M.D., of Toronto; William Cotton Cornwall, M.D.; James Mackinlay, M.R.C.S.; John F. Woods, M.R.C.S.; G. S. Elliston, M.R.C.S.; John de la Zouche Marshall, L.R.C.S.

MARCUS BECK MEMORIAL.

A MEETING was held at University College on Thursday, June 22nd, to organise a project for collecting a fund for the purpose of establishing a memorial to the late Professor Marcus Beck. The meeting was largely attended by his old friends, colleagues and students.

Mr. ERICHSEN, the President of the College, presided, and in opening the proceedings referred in feeling terms to the loss which he himself as well as the College and a large circle of friends had sustained. He dwelt upon Mr. Beck's wide knowledge of the ancient and modern history as well as of the facts and details of his profession, his caution and discretion and skill as an operator, his remarkable powers of diagnosis and his laborious care in teaching the students. But when thinking of Mr. Beck as a man he could scarcely trust himself to speak: he was pure-minded above all praise; he hid a warm heart under a somewhat cold exterior and was possessed of the warmest susceptibilities, thinly veiled by a covering of rather caustic humour and cynicism. The business of this meeting was to secure a memorial of him more durable even than that which remained in the memories of those who survived him.

Mr. CHRISTOPHER HEATH, senior surgeon to University College Hospital, fully sympathised with the touching words in which the President had referred to his late colleague, with whom during the twenty-six years of their acquaintance and friendship he had never had a word of difference. Mr. Beck had given, perhaps, the most original and instructive course of systematic lectures on surgery that had been delivered in that or any other school. The labour involved in the preparation and delivery of such a course was perhaps hardly appreciated by those to whose lot it had never fallen to have to undertake the task. He never spared time or trouble in that or in his clinical teaching, and the fatigue of it all at last told upon him, striving as he was for years against one of the most depressing of diseases. Mr. Heath referred to the notices of him that had appeared in the journals—the most sympathetic he ever remembered to have read—leaving, as he said, little or nothing to be added in that direction. He moved: "That it is desirable that a memorial be established to the late Professor Marcus Beck and that a subscription list be opened for this purpose."

Dr. WM. PRICE of Cardiff briefly seconded the resolution, which was carried unanimously.

Dr. ROBERTS then proposed the second resolution: "That the sum collected be devoted to the erection of a suitable memorial tablet in one of the wards of the hospital and towards the endowment of a bed." He felt sure that Mr. Beck would have wished that any memorial to himself should have taken this or some equally useful form, and he knew that he had a great objection to one in the form of a bust. He therefore heartily agreed with the words of the resolution.

Mr. STANLEY BOYD, Mr. SEDGWICK and Mr. PEARCE GOULD spoke on the resolution, which was agreed to.

Dr. DOUGLAS POWELL then moved: "That the following gentlemen be invited to form a committee to carry out the above objects: Mr. J. Eric Erichsen, chairman; Mr. Christopher Heath, treasurer; Dr. G. V. Poore, Dr. J. R. Bradford, Mr. E. C. Shoppee and Mr. J. E. Paul. Secretaries: Mr. Rickman J. Godlee, 19, Wimpole-street; Mr. Raymond Johnson, 20, Weymouth-street; and Mr. F. W. Wesley, University College Hospital; with power to add to their number."

Mr. G. B. WHITE seconded and the motion was carried.

The meeting closed with a vote of thanks to the chairman, proposed by Dr. Snow of Bournemouth, and seconded by Mr. Mason of Burton-on-Trent, to which Mr. Erichsen briefly replied.

EPSOM COLLEGE.

THE report of the Council read at the fortieth annual general meeting of the governors of this institution gives a highly favourable account of progress during the past year. The school appears to be quite full and the ordinary number of pensioners and foundation scholars has been maintained. The report, moreover, gives a satisfactory record of the amount of donations received during the twelvemonth, owing, it is stated, to the liberality of the Queen and of an anonymous benefactor and to the generosity of the Editors of THE LANCET as well as of several City Companies. The receipts from annual subscriptions have been somewhat less than was anticipated, and the Council are anxious to impress on the minds of well-wishers that on this source of income mainly depends the future prosperity of the College.

The Council have to regret the occurrence in September last of a scarlet-fever outbreak of a mild type, which nevertheless necessitated the closing of the school for a time. During the vacation every precaution was taken to disinfect the premises, but on the reassembling of the boys the fever reappeared to a limited extent, and the counsel and aid of Sir G. Buchanan were sought, who paid two visits to the school and expressed his satisfaction with the means which had been adopted to free the buildings from infection. No cases have arisen since March 12th.

Of the work and discipline of the College the Council have a cheering account to give. In Michaelmas term last the number of boys reached its full limit and there are now many names registered for admission. Indeed, the expediency of providing further accommodation has become a matter of serious consideration. Since the last report three more open scholarships have been gained at Cambridge and one at St. George's Hospital, making ten altogether in a little over two years. Nine boys passed the London Matriculation Examination—all direct from the school. Other instances might be given of the success which has attended the teaching at the College, the alumni of which have been able to hold their own in the various competitions open to them.

Finally the Council have the gratification of announcing that in future Epsom College will be recognised as a school of science by the medical licensing bodies. This cannot but be regarded as a great boon by many of the pupils, who will now be able to pass in the subjects of chemistry, practical chemistry, physics and elementary biology whilst at the College, and thus be free to devote the whole of their attention during university or hospital life to the acquisition of the practical knowledge necessary to the gaining of a medical degree or diploma.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THERE is not much to be added of a very satisfactory or reassuring character to our report of last week. Cholera seems to be widely distributed at the present time, although, if we except Mecca, it has not manifested itself with epidemic strength or severity at any particular place. In Europe it has been generally mild in form but persistent in character. At Mecca, however, the outbreak has been very severe and is still increasing with alarming rapidity. The deaths on June 25th numbered 455 and later reached even 1000 a day. During the first ten days of last month 62,000 pilgrims passed through Jeddah alone and further arrivals are still announced. As regards France, cases of cholera have occurred in the north-west, west and south of that country, and the disease seems to have been widely distributed. The health of Paris keeps good, but not so that of other parts of France. For some time past cholera prevailed to a limited extent in Brittany, especially at Lorient and Quimper, and subsequently the disease appeared in Southern France. Cases of cholera, with the usual proportion of deaths, have occurred at Nimes, Montpellier, Cette, Bessèges, Frontignan, Alais, Lyons, Toulon, Nantes, Hyères and Marseilles. The disease is extending south-eastwards to the frontier of Spain. The valley of Andorra in general has suffered, and at Pamiers, in the Arriège department, the visitation is said to have been severe. Nantes in the west is affected, with a prospect of the disease extending up the valley of the Loire, and there are rumours of suspicious cases of choleraic disease at Bordeaux. According to a telegram from Paris of the 28th ult., it is reported from Carcassone that an outbreak of cholera, which is attributed to the bad water, has occurred in the village of Luc-sur-Aude, where out of 200 inhabitants twelve deaths have been registered and fifteen cases are under treatment. The people have fled from the commune. Fresh cases are reported from Hyères and Seyne.

It may be mentioned that in conformity with the views expressed at the recent Conferences at Venice and Dresden the French Government have sent an official intimation to the different Governments represented at those Conferences of the outbreak of cholera in the department of Gard in France.

A vessel—the British steamer *Widdrington*, from St. Louis, France—arrived at Malta on the 22nd ult. with three cases of cholera on board, two of which proved fatal. We also learn from Rome that a case of suspected cholera had occurred at Piozzo, in the district of Mondovi, in the person of a recent arrival from the South of France.

The steamship *Myrtle Branch* arrived in the Tyne on Sunday evening last from Nantes. A fireman had died on board with all the symptoms of cholera. Details of this case are given in an annotation on another page.

Our readers' attention is directed to the circular that has been issued from the Local Government Board to the sanitary authorities, together with a very lucid memorandum drawn up by Dr. R. Thorne Thorne which succinctly sets forth the history of Asiatic cholera in connexion with this country and with Europe in general from the time since it first made its appearance in England in 1831-32 up to the present period. The memorandum is carefully and judiciously written and briefly states the facts in such a way as to suggest the inferences that may be naturally and reasonably drawn from them. Adverting to the fact that cholera has several times reached England from certain ports abroad and notably from Hamburg, it is pointed out that its incidence in this country has not been greatest during the first year of its European prevalence, but on recrudescence of the infection in the second or even third year. Without professing to suggest any explanation of this, or to imply that the same sequence of events must necessarily occur again, its bearing upon the present situation is clearly indicated.

The history of cholera as an epidemic requires to be studied from the aggregate of a large number of authenticated statistical data as well as from the standpoint of the local observer. A local observer, looking at local data only, fails to perceive the whole truth, which is that the local outbreak he is observing is only a small part of a general epidemic. We may recognise the influence of one series of facts in connexion with the epidemiology of the disease without in the least invalidating or weakening the importance of locally observed phenomena and their bearing on the whole series; but the history of an epidemic, as a whole, forms an independent study with which no mere local observer is competent to deal satisfactorily. We want, in the first place, to collect all the facts, and this altogether indispensable knowledge has been too much veiled hitherto by the mist of prejudged conclusions. We want a history of cholera as written, so to say, by cholera itself, and chronicled by observers whose sole aim and object are entire truthfulness in making the record. A broad survey of the facts connected with the history of an epidemic of cholera, studied as a branch of natural history, shows that it must be governed by some natural laws and that its relation to space and to time is not dependent on mere contingencies; that it has its periods of dormancy and activity; that it has its periods of invasion, reproduction and decay; that epidemics extend over years and are made up of renewals in each year of their lifetime, of outbreaks which are the local manifestations of, but are not themselves, the epidemic; that the causes of an epidemic are conditioned and that either the epidemic cause or its conditions are movable; that, introduced into a country at one time and at many points, the disease fails to spread, whilst at another time such introduction appears to light up an epidemic; that an epidemic commonly pursues a definite direction; that different epidemics, when carefully studied, are found to be parallel to each other; and that the incompleteness of our knowledge of cholera as a branch of epidemiology, like the incompleteness of our knowledge of influenza or of epidemic malaria, is probably due to our inability to grasp, as a whole, the facts which every epidemic affords. These considerations lead up to a belief in the existence of a primary law to which other things, however influential and however fruitful of practical results our knowledge of them may be, are nevertheless secondary and subordinate. Be these things as they may however, we have in the meantime to deal with the facts as they occur and come before us in detail according to those methods which have been ratified by previous experience and scientific observation. As the medical officer of the Local Government Board points out, the sanitary authorities of this country "should be prepared in advance to prevent extension of any cholera that may be imported into their districts, and this duty devolves especially on authorities of those districts into which cases of imported cholera are most likely to make their way."

It is undeniable that the use of impure water is a prime factor in cholera, and a wholesome water-supply—protected from all contamination—is universally regarded as of the first importance; still, contaminated water, although the most common, is not the only and exclusive cause of cholera and wholesome water would not by itself be a protection against the influence of other causes if these were in operation: elevation of site, efficient drainage, the avoidance of overcrowding, temperance in living and attention to personal hygiene are also required. But, like Charity amongst the Christian graces, the greatest of these is a good water-supply. Rapid dispersion of bodies of men on the appearance of cholera is the main preventive measure relied upon in India; and the removal of persons from dwellings in which more than one or two cases of cholera have occurred has commonly been attended with apparent and sometimes signal success.

The effect of local and localising influences in times of cholera prevalence is generally strikingly manifested. These are at any rate the nurses, if not the parents, of the disease and we can see that the cholera-cause, be it a comma bacillus or any other vitalised germ, is not fostered and developed in this country by foul and insanitary conditions of water, air or soil.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birmingham Urban Sanitary District.—The infantile mortality of Birmingham formed the subject of a special inquiry by Dr. Alfred Hill during the year 1892, and the results of that investigation are embodied in his annual report. The inquiry was intended to cover the deaths of all infants under one year of age which occurred in Birmingham in 1891; but owing to the intrinsic difficulties as regards changes of address &c. it was found that details were only obtainable in 1222 cases, a figure which represents barely 50 per cent. of the total deaths under one year of age. Dr. Hill, in commencing his report on the inquiry, draws attention to a remarkable fact—i.e., that although during the past nineteen years the general death-rate of the city has been reduced by 2·9 per 1000, the infantile mortality has remained absolutely stationary at 169 per 1000 births. Comparing these figures with those of London for the same period, it seems that the general death-rate fell 8 per cent. as against a fall of only 2 per cent. as regards the infantile mortality, whilst the infantile mortality for the whole of England decreased by only 1 per cent. Dr. Hill concludes from this that "in Birmingham the infantile mortality has remained unaffected by the public measures taken to improve the health of the community." On making an analysis of the various wards it was found that the highest infantile mortality was to be found in those in which a large proportion of mothers were employed away from their homes; but the analysis brought out the very peculiar feature that in the wards where the mortality was highest the smallest percentage of children were hand-fed. This is so contrary to expectations that Dr. Hill is inclined to doubt the accuracy of his information on this point. If the evidence be reliable it would seem to show that general neglect is more detrimental than artificial feeding, or that, although the children of those women who laboured away from home were breast-fed, the milk was given at too long intervals or was, for some reason or other connected with the women's employments, of too poor a quality. Probably, however, as Dr. Hill states, the information was erroneous. During the inquiry under consideration the sanitary condition of 1937 houses in which infant deaths had taken place were investigated, with the result that no connexion could be discovered between what are generally regarded as sanitary defects or surroundings and the infantile mortality. Dr. Hill states that "it may be they (sanitary conditions) affect health, as no doubt they do at this period, but that their effect on life is not exerted until a later period." Of the 1222 infants whose deaths were inquired into, 4 were the offspring of professional classes, 134 of trading classes and 1084 of artisans &c. Pursuing the inquiries into the causes of death amongst infants under one year of age Dr. Hill found that of 2504 registered births as many as 1072 were due to disease of the digestive organs and 515 to bronchitis and pneumonia. In illustration of the effect of artificial feeding Dr. Hill points to the fact that in Norway, where the mothers universally suckle their offspring, only 12·5 per cent. of the infantile mortality is due to disease of the digestive organs, as against 40 per cent. in England and France; and he mentions the instances of the Manchester cotton famine and the siege of Paris to show how the general death-rate may be increased whilst the infant mortality is as markedly decreased. There is little doubt that Dr. Hill's valuable report will form a most useful standard of comparison for similar inquiries in other large towns and will perhaps stimulate his authority to include some of the so-called "social" causes amongst those which sanitary science may well attempt to battle with—at any rate, so far as taking steps towards the better control of whooping-cough and measles.

Newcastle Urban Sanitary District.—As far as a year's statistics are of value those for 1892 show remarkably low death-rates as compared with those hitherto recorded in Newcastle. The number of enteric fever cases notified to the sanitary authority is by far the lowest since the introduction of compulsory notification, and there has been a marked decline in the mortality from the disease. Out of 450 addresses received at Newcastle of passengers from cholera-infected ports eight were found to be incorrect. This is somewhat disquieting. All those who could be found were visited and, with the exception of one passenger who had an attack of English cholera, no illness was discovered. In anticipation of the reappearance of the disease this year the sanitary authority are laying down foundations and sewerage for a cholera hospital of 100 beds, and all is arranged for the speedy erection of wards should such a course be deemed necessary. The arrangements made include the sterilisation of excreta by steam. It appears that at the City Hospital for Infectious Diseases "about 7 per cent. of the cases were found after admission not to be suffering from any infectious febrile disease." This is certainly a somewhat high percentage, and is, we think, in excess of the erroneous diagnoses met with in the hospitals of the Metropolitan Asylums Board. There are seventy-six common lodging-houses in Newcastle and during the year only three cases of infectious diseases were notified in them. The detection of infectious disease in common lodging-houses is a rather difficult question, but the importance of some improvements being made as regards its early recognition has received abundant proof during the present epidemic of small-pox. Under Part III. of the Housing of the Working Classes Act common lodging-houses for single women and men are being erected by the council, and when they are completed strenuous action under Part II. as regards unhealthy dwellings will probably be taken. Dr. Armstrong again raises the question of the notification of measles, with which his name is now intimately associated, and he presented a special report to the Sanitary Committee upon the subject. The proposal to notify measles was discussed and voted upon, with the result that the voting was equal.

Cardiff Port Sanitary Authority.—There were 4608 vessels inspected in the waters of this port during 1892, and of these, 813 were found to be in a defective or insanitary condition. The chief defects were in connexion with ventilation, water-supply, overcrowding, leaking or unlined decks, closet accommodation &c. There seems to have been little or no difficulty in bringing about a better state of things on board vessels in which defects were discovered. During the year seven cases of typhoid fever and five of scarlet fever were admitted into the hospital ship. In order to properly carry out the provisions of the Local Government Board with reference to the medical inspection of vessels a small steam tug was chartered by the sanitary authority for the months of September and October, and during this time an inspection of shipping was carried on both by night and by day. Dr. Walford refers to the danger of trusting to the Customs officers' inspection alone and he is undoubtedly right. These officers, though as a rule affording every assistance in their power, have not the training necessary to deal with matters involving public health questions. Furthermore, it is obvious that the only reliable method is for the medical officer of health or his deputy to inspect every vessel or person coming from what can in any light be regarded as an infected port. Dr. Walford, in discussing the question of burial, refers to the difficulty of obtaining proper interment at Cardiff either by land or sea—by land because of the shallowness of the soil overlying the carboniferous limestone rocks, and by sea owing to the risk of the bodies being disturbed by the shipping of the port; and in consequence of these objections he recommends the erection of a small crematorium on the Flat Holme Island, a suggestion which, we believe we are right in saying, is now being carried into effect by the sanitary authority. Judging from the activity displayed at the port, the crews of vessels visiting Cardiff must be gratified by the efforts which are being made by the port sanitary authority to enhance their health and comfort.

Counties of Kirkcudbright and Wigtown.—In Dr. Leslie Mackenzie's report for 1892 there is some interesting reading. Taking a broad view of his duties as county medical officer he has instituted a system of public health propaganda consisting in (1) the delivery of lectures in the more populous

villages and (2) the issue of memoranda on public health questions. The lectures have been on such subjects as Tuberculosis, Defective Drainage, Small-pox and Tramps, Infectious Disease and its Prevention. The memoranda have been on Cholera and on Schools and the Public Health. Though the Scotch Public Health Act is now somewhat antiquated, Dr. Mackenzie seems to recognise that in remote rural districts public opinion on sanitation is almost equally old-fashioned and that it is desirable to bring the latter as well as the former more nearly up to date. It is satisfactory to note that several of the burghs have been wise enough to join with the county in regard to the services of the medical officer, as it is only in this way that anything like uniformity of sanitary procedure can be brought about under the Scotch Public Health and Local Government Acts. The Wigtown county report contains an important correspondence on the duties of the medical officer of health with regard to an outbreak of anthrax in a dairy. Dr. Mackenzie declared his intention, in the event of milk being sold before the premises were free from the disease, of certifying the dairy as a nuisance under Section 16 (*e*) of the Public Health Act as a "business injurious to the health of the neighbourhood, or so conducted as to be offensive or injurious to health." It is in a sense unfortunate that he did not require to take proceedings, as the sheriff's decision would have been an important one, either for or against the contention raised by the medical officer.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6258 births and 4377 deaths were registered during the week ending June 24th. The annual rate of mortality in these towns, which had increased in the preceding three weeks from 17·5 to 19·4 per 1000, further rose last week to 22·1. In London the rate was 22·6 per 1000, whilst it averaged 21·8 in the thirty-two provincial towns. The lowest rates in these towns were 11·5 in Norwich, 12·8 in Huddersfield, 14·4 in West Ham, 14·6 in Brighton and 15·8 in Nottingham; the highest rates were 26·1 in Birkenhead, 26·6 in Manchester, 26·9 in Salford, 28·9 in Preston and 32·9 in Liverpool. The 4377 deaths included 924 which were referred to the principal zymotic diseases, against 473 and 676 in the preceding two weeks; of these 496 resulted from diarrhœa, 128 from measles 95 from whooping-cough, 86 from diphtheria, 54 from scarlet fever, 41 from "fever" (principally enteric) and 24 from small-pox. No death from any of these diseases occurred last week in Huddersfield; in the other towns they caused the lowest death-rates in Swansea, Sunderland and Oldham, and the highest rates in Salford, Liverpool, Birkenhead, Leicester and Preston. The greatest mortality from measles occurred in Plymouth, Bradford, Manchester, Newcastle-upon-Tyne, Cardiff, Blackburn and Preston; from scarlet fever in Norwich and Burnley; from whooping-cough in Leeds, Hull and Plymouth; and from diarrhœa in Birmingham, Cardiff, Sheffield, Bolton, Salford, Liverpool, Preston, Birkenhead and Leicester. The mortality from "fever" showed no marked excess in any of the large towns. The 86 deaths from diphtheria included 68 in London, 3 in Croydon and 3 in Manchester. Eleven fatal cases of small-pox were registered in London, 4 in Bradford, 2 in Birmingham, 2 in Oldham, 2 in Halifax, and 1 each in West Ham, Birkenhead and Manchester; 410 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 551, 495 and 490 at the end of the preceding three weeks; 59 cases were admitted during the week, against 110, 80 and 105 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2699, against 2592, 2639 and 2681 on the preceding three Saturdays; 309 new cases were admitted during the week, against 313, 290 and 264 in the preceding three weeks. The deaths referred to diseases of the respiratory organs in London, which had been 233 and 234 in the preceding two weeks, rose to 252 last week, and were 38 above the corrected average. The causes of 75, or 1·7 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Blackburn, Leeds and in seven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Salford, Bradford and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·1 and 20·2 per 1000 in the preceding two weeks, rose again to 22·0 during the week ending June 24th, and almost corresponded with the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 11·7 in Leith and 17·7 in Edinburgh to 24·1 in Dundee and 34·8 in Greenock. The 621 deaths in these towns included 50 which were referred to measles, 43 to diarrhœa, 18 to whooping-cough, 6 to "fever," 6 to diphtheria, 4 to scarlet fever and not one to small-pox. In all, 127 deaths resulted from these zymotic diseases, against 107 and 98 in the preceding two weeks. These 127 deaths were equal to an annual rate of 4·5 per 1000, which was slightly below the mean rate from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 46 in each of the preceding two weeks, rose last week to 50, of which 29 occurred in Glasgow and 17 in Greenock. The deaths from diarrhœa, which had been 16 and 12 in the previous two weeks, rose last week to 43, and included 31 in Glasgow and 5 in Greenock. The 18 fatal cases of whooping-cough showed a slight further decline from those recorded in recent weeks, and included 15 in Glasgow. The deaths referred to diphtheria, which had been 7 and 6 in the preceding two weeks, were again 6 last week, of which 4 occurred in Glasgow and 2 in Edinburgh. The 6 fatal cases of "fever" were within one of the number in the preceding week; and included 3 in Glasgow and 2 in Dundee. The deaths referred to diseases of the respiratory organs in these towns, which had been 107 and 98 in the preceding two weeks, were 99 last week, and exceeded by 19 the number in the corresponding week of last year. The causes of 38, or 6·1 per cent., of these deaths in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·7 and 28·2 per 1000 in the preceding two weeks, declined again to 25·4 during the week ending June 24th. During the past twelve weeks of the current quarter the death-rate in the city has averaged 25·8 per 1000, against 19·2 in London and 17·6 in Edinburgh. The 170 deaths registered in Dublin during the week under notice showed a decline of 19 from the number in the preceding week and included 21 which resulted from the principal zymotic diseases, against 9 and 21 in the preceding two weeks. Of these, 9 were referred to diarrhœa, 6 to measles, 4 to "fever," 1 to scarlet fever, 1 to whooping-cough and not one either to small-pox or diphtheria. These 21 deaths were equal to an annual rate of 3·1 per 1000, the zymotic death-rate during the same period being 5·0 in London and 2·3 in Edinburgh. The 9 deaths from diarrhœa considerably exceeded those recorded in any week during the current year. The fatal cases of measles, which had been 5 and 4 in the preceding two weeks, rose again to 6 last week. The deaths referred to different forms of "fever," which had been 2 and 3 in the preceding two weeks, further rose to 4 last week. The mortality from whooping-cough showed a marked decline from that recorded in recent weeks. The 170 deaths registered in Dublin last week included 29 of infants under one year of age and 43 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a further increase upon those recorded in recent weeks. Two inquest cases and 5 deaths from violence were registered; and 58, or more than a third, of the deaths occurred in public institutions. The causes of 15, or nearly 9 per cent., of the deaths registered in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

SURGEON-MAJOR-GENERAL MADDEN, who is due for retirement at the end of July, has arrived home from Malta, his place being taken at Malta by Surgeon-Major-General Paterson. Surgeon-Lieutenant-Colonel Drury has been posted for duty to the Royal Infirmary, Dublin. Surgeon-Captain

Kiddle has been granted leave from Cyprus to England. Surgeon-Lieutenant-Colonel Joynt has left Chatham on leave. Surgeon-Lieutenant Martin has arrived at York for duty and Surgeon-Lieutenant Symons has been placed in Charge of Militia at Nenagh.

ARMY MEDICAL STAFF.

Surgeon-Colonel James Inkson, M.D., to be Surgeon-Major-General, vice T. Rudd, M.D., retired. Brigade-Surgeon-Lieutenant-Colonel William Thomas Martin, M.D., to be Surgeon-Colonel, vice J. Inkson, M.D. Surgeon-Lieutenant-Colonel Charles Frederick Pollock, M.B., to be Brigade-Surgeon-Lieutenant-Colonel, vice W. T. Martin, M.D.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced:—Bengal Sappers and Miners: Surgeon-Lieutenant B. R. Chatterton, to the Officiating Medical Charge of the Corps. Wing, 13th Bengal Infantry: Surgeon-Lieutenant G. Y. C. Hunter, to the Officiating Medical Charge of the Wing. 24th Bengal Infantry: Surgeon-Lieutenant W. H. Ogilvie, to the Officiating Medical Charge of the Regiment. Surgeon-Captain C. R. M. Green, Officiating Resident Surgeon, Eden Hospital, to act as Resident Surgeon, Medical College Hospital, until further orders. Surgeon-Captain F. O'Kinealy, Officiating Civil Surgeon of Nadia, to act as Resident Surgeon, Eden Hospital, until further orders. The services of Surgeon-Colonel J. Cleghorn, M.D., Inspector-General of Civil Hospitals, Punjab, are placed temporarily at the disposal of the Military Department. Dr. A. Fermie, L.R.C.P., L.R.C.S.Edin., L.F.P. and S.Glasg., whose services have been placed temporarily at the disposal of the Chief Commissioner of Assam, is appointed to Officiate as Civil Medical Officer of the Kamrup District until further orders. Surgeon-Major J. W. U. Macnamara, M.D., Civil Surgeon, Kamrup, is transferred to the Darrang District. Surgeon-Major S. Borah, M.B., Civil Surgeon, Darrang, is transferred to the Sibsagar District. Dr. H. A. Macleod, M.B., C.M., Officiating Civil Medical Officer, Sibsagar, is transferred to Tura and appointed to officiate temporarily as Civil Medical Officer of the Garo Hills District. Surgeon-Lieutenant-Colonel George Gilbert MacLaren, M.D., Civil Surgeon, Dehra Dun, retires from the service.

The *London Gazette* of June 27th contains the Queen's approval of the following promotions, most of which have been already announced in THE LANCET:—*Bengal Medical Establishment:* To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel George Thomson. Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels: David Douglas Cunningham, Archibald Cameron, M.D., and James Charles Gordon Carmichael, M.D. Surgeon-Majors to be Surgeon-Lieutenant-Colonels: David Wilkie, Denis Peter Macdonald, M.D., Oswald Baker and Frederick William Wright, D.S.O. Surgeon-Captains to be Surgeon-Majors: Frederick Daly Cæsar Hawkins, John Adams Cunningham, M.D., Harry Chalmers Hudson, Alexander Silcock, Patrick Mullane, M.D., John William Rodgers and James Farquharson Maclaren. *Madras Medical Establishment:*—Surgeon-Majors to be Surgeon-Lieutenant-Colonels: William Richard Browne, M.D., and Arthur Henry Leapingwell.—Surgeon-Captains to be Surgeon-Majors: Arthur George Edward Newland, Arthur Theophilus Lodge Patch, Ronald Ross, Charles Adams and Alfred James O'Hara. *Bombay Medical Establishment:* To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel Robert Bowman. Surgeon-Captains to be Surgeon-Majors: Alexander Milne, Richard John Baker, M.D., William Alfred Corkery, Moscardi Bellarmin Braganza, Sarkies Thaddeus Avetoom and Henry Wickham Stevenson. The Queen's approval of the following retirements is also announced: *Bengal Medical Establishment:* Brigade-Surgeon-Lieutenant-Colonel William Center. *Madras Medical Establishment:* Brigade-Surgeon-Lieutenant-Colonel James Byers Thomas. *Bombay Medical Establishment:* Brigade-Surgeon-Lieutenant-Colonel Wellington Gray.

NAVAL MEDICAL SERVICE.

The following appointments are announced: Fleet-Surgeon William Graham to the *Rupert*. Surgeons: J. H. Thomas to the *Rupert;* Thos. E. Honey, M.D., to the *Vivid*, additional; A. A. R. Lloyd to the *Blake*, A. Bonstow to the *Pique*, and John Reep to the *Bonetta*.

VOLUNTEER CORPS.

Artillery: 1st Gloucestershire: Surgeon-Lieutenant D. S. Davies, M.D., to be Surgeon-Captain.—*Rifle:* 1st Volunteer Battalion, the Royal Welsh Fusiliers: Surgeon-Lieutenant R. Williams resigns his commission.—1st (Hallamshire) Volunteer Battalion, the York and Lancaster Regiment: Surgeon-Captain W. Hallam resigns his commission.

VOLUNTEER MEDICAL STAFF CORPS.

The Aberdeen Company: Chas. Thiselton Dyer Urquhart, M.B., to be Surgeon-Lieutenant (Supernumerary).

THE VOLUNTEER OFFICERS' DECORATION.

This decoration has been conferred upon Surgeon and Honorary Surgeon-Major Thomas William Nunn, retired, 5th (West) Middlesex.

THE NAVY AND ARMY ESTIMATES: MEDICAL ESTABLISHMENT AND SERVICES.

In the debate on the Navy Estimates in the House of Commons on Monday last several points of interest were raised on the vote of £133,000 for medical establishments and services. Mr. Forwood started a discussion in regard to the naval lunatic asylum at Great Yarmouth, and Mr. Tomlinson even urged that the asylum should be closed and the inmates transferred to a more convenient centre. Mr. T. G. Bowles complained of the cost "for physicking and doctoring" in the navy, which for 76,000 men was about £2 per head. Complaints were also made of the low scale of pay given to the attendants in the naval hospital at Stonehouse; and Mr. Forwood, alluding to the representations made to the late Admiralty by the workmen in the various yards in favour of specialists being appointed to attend to accidents of the eye, which were very frequent, said that the late Admiralty made a provision for this, but that he could not find it in the present Estimates. Sir U. Kay-Shuttleworth went into the subject of the cost of the asylum at Great Yarmouth, which contained 140 naval and sixty Indian patients, but did not seem to favour the idea of closing the asylum. He added, in respect of other matters, that they should receive consideration and that the provision in regard to cases of eye-surgery had been re-appropriated but not struck out of the Estimates. No discussion or question arose as to the organisation and working of the naval medical service, which, therefore, unlike the army medical service, seems to be satisfactory in all respects.

When the House went into Committee of Supply on the Army Estimates on the 27th ult., there was a relatively small House, a large number of members, probably exhausted by their long and sustained attendance in connexion with the Home Rule Bill, having made their exodus when the questions for the day were completed. The debate was nevertheless of a lively kind and embodied a good many points of interest as far as the Army Medical Service is concerned. Mr. Hanbury led off the discussion on the vote of £28,200 for medical establishments, pay &c., and he was followed by Major Rasch, Mr. Bartley, Mr. A. Morton, Mr. Brodrick and Sir George Chesney in very much the same line, which was one more or less adverse to army medical officers, while Dr. Farquharson, Mr. Jeffreys, Colonel Lockwood, General Goldsworthy and others spoke in vindication of them or in support of their claims to consideration in several matters which have been put forward to the present Government in their behalf. Mr. Campbell-Bannerman's tone in his reply was, we were glad to recognise, far more conciliatory than that adopted by many of the speakers, and the medical service is to be congratulated on the fact that the present War Minister has evidently every disposition to consider and meet as far as he can every substantial grievance that is brought under his notice. The debate covered such a wide range and involved so many subjects and so much contentious matter that it is not possible to follow or discuss it adequately within the compass of a short article. We must therefore confine ourselves at present to a few selected points. To begin with, we are extremely glad to notice that the medical officers' lack of knowledge and experience in the working of field hospitals and of field service work generally, of which they have themselves complained, has attracted attention, and is likely to lead to the medical service getting a more efficient training in this class of work than is the case at present. St. George's Barracks as a central recruiting depôt is to be discontinued, we are glad to learn, for it is quite unfit for the purpose. The alleged inefficiency and loss of health entailed by the medical officers increased length of service in India is to have full consideration, and it certainly merits it; and the War Minister, whilst expressing his reluctance to see a professional title merged in some other title not distinctive of the nature of the duties rendered, added that he was not surprised that medical

officers with so many words before their names should desire to drop a few of them.

THE INDIAN CURRENCY.

We need make no apology for reverting to a subject which gravely affects the financial interests of the Government of India and those of all its European servants, civil and military alike. On Monday, June 26th, the announcement was made in both Houses of Parliament that the Council of the Viceroy of India had passed an Act, which took effect at once, for the purpose of carrying out the plan recommended by Lord Herschell's committee in reference to Indian currency. The Act provides for the close of the Indian mints to free coinage of silver. Arrangements will be made to issue rupees from the mints in exchange for gold and sovereigns, at the rate of sixteenpence per rupee, until further notice, and to receive sovereigns and half-sovereigns at public treasuries in payment of Government dues at the same rate. It is intended to introduce a gold standard into India, but gold will not be made legal tender at present. Mr. Gladstone, in reply to several points raised by Mr. Goschen, expressed himself with great caution and reserve. The change, which is a revolutionary one as far as Indian finance is concerned, has been mainly brought about by the great losses entailed upon the Indian Government in having to make enormous payments in gold at home and by the great hardship inflicted upon its servants from the progressive depreciation of silver. If the attempt to substitute gold succeeds, this depreciation of silver will be still further increased. The effect of the Act passed by the Legislative Council in India will secure certain results at once, to be followed by further legislation later, after the Government have had an opportunity of watching the operation of their present measures. The case of India is, in one respect, almost unique, for it has been found practically impossible, as regards taxation, to reach the classes in that country who can afford and ought to pay without inflicting grievous injury on those who cannot afford to pay. The subject is avowedly one of extreme difficulty, but it has been fully considered by financial experts in India and in this country, with the result of bringing about an advantageous change as regards those medical officers and others who have been hitherto subjected to a grievous loss whilst serving in India. Up to this the rupee, as compared with the sovereign, has been a variable quantity, but now there is one standard of value for India and the United Kingdom alike—the British sovereign.

M. HAFFKINE IN INDIA.

M. Haffkine is apparently pursuing his method of inoculation for cholera on an extended scale in India. In one British regiment over 400 men have been inoculated, and the system has been carried out at Agra, Delhi, Lucknow and Simla. At the latter place, which is the seat of Government, a number of officials and military and medical officers have, it is stated, voluntarily submitted themselves to the operation. It is believed that M. Haffkine will probably be made the head of the proposed Pasteur Institution in India.

Correspondence.

"Audi alteram partem."

"LIGHT AND FREQUENCY PHENOMENA."

To the Editors of THE LANCET.

SIRS,—In the last number of THE LANCET you give under the above heading a quotation from a lecture delivered at Philadelphia by M. Nikola Tesla, in which he opens up a startling new physiological doctrine of the widest possible bearing, and which tends to throw into confusion the ordinary ideas which the world has ever held respecting our five senses. One sentence from the lecture is sufficient to show his meaning: "It can be taken as a fact, which the theory of the action implies, that for each external impression—that is, for each image produced upon the retina—the ends of the visual nerves concerned in the conveyance of the impression to the mind must be under a peculiar stress or in a vibratory state. It now does not seem improbable that when by the power of thought an image is evoked a distinct reflex action, no matter how weak, is exerted upon certain ends of the visual nerves, and therefore upon the retina. Will it ever be within human power to analyse the condition of the retina when disturbed by thought or reflex action by the help of some optical or other means of such sensitiveness that a clear idea of its state might be gained at any time?" In considering this question it must be admitted that the influence of the centres upon various parts of the body requires much more investigation than has hitherto been bestowed upon it. For instance, in the case where a hypodermic injection in any part of the body is attended by the feeling of a prick in the corresponding part of the opposite side it is said that the fellow centre is excited, and so, by the law of our being, a sensation is produced in the periphery; but when more than this, and some nutritive change is produced on the surface, we believe that some active influence has been transmitted by an afferent nerve. In the case of the ecstatic young girl on whose hands and feet stigmata periodically appeared it was maintained by some physiologists that a concentration of thought on these parts was sufficient to explain the phenomena. All admit that mental emotion will affect almost every secretion in the body, evidenced by its increase or inhibition, and this occurrence is by no means always reflex, as when a simple thought may produce vomiting or some similar disturbance of an organ. In the case of the eye, although books give no other causes for changes in the size of the pupil than certain external stimuli, yet (as I have written elsewhere) these alterations are constantly occurring in states of emotion from direct cerebral influence. That the muscles are in continuous correspondence with states of the brain is well known from the phenomena of thought reading as well as from physiognomical expression and from the meaning of gesture.

Although the direct influence of the nerve centres on various tissues of the body must be admitted it is proceeding to a very great length to say with M. Tesla that the organs of the senses may be affected from within. This seems like a total contradiction of the ordinary experience of mankind and teaching of physiology; it may carry us far into the regions of spiritualism "or esoteric Buddhism." We have hitherto believed that the brain sends out its prolongations in the form of special nerves in order to become cognisant of the external world—that, for example, rays of light impinging on the retina, there produced a picture which excited to action the optic nerve, visual centre and brain, so that we thereby gained a knowledge of the figure or landscape before us; or that the vibrations of the air acted on the membrane of the tympanum and then on the nerves and auditory centres until we heard the sound of the distant music. This is the natural process, but we know that these centres may be primarily impressed through the brain, and that then the subject of these impressions sees and hears with equal certainty or conviction as when they are excited in the usual manner. This is an unnatural process and shows that the brain must be in a morbid condition, or, in other words, the person is mad; what he sees and hears we call a hallucination and a very strong evidence of his departure from health. His impressions, in ordinary language (not very correctly used), are altogether subjective. This is well expressed in the well-known lines of Tickell's ballad of "Colin and Lucy," where the crazy, lovelorn lass exclaims—

> "I hear a voice you cannot hear
> Which says I must not stay;
> I see a hand you cannot see
> Which beckons me away."

So with Macbeth when he sees the dagger, he calls it "the dagger of the mind, a false creation, proceeding from the heat-oppressed brain." We believe in this case there would be no impression or picture of the dagger on the retina. In the same way, if a person sees a ghost there would be no picture of it on the retina as there would be if the impression came from a material object. This would be the real test, if practicable, between the objective and subjective or the real and imaginary. We are now told that probably, when by the power of thought an image is evoked, the retina itself is disturbed and this we may be able to prove by some sensitive instrument. We must not doubt the possibility of anything, but at present we must hesitate to believe that the retina, nerve, visual centre and brain are in the same condition as regards the appreciation of an image whether the excitation has passed backwards or forwards or the process has been objective or subjective. That Blake produced his extraordinary drawings from the workings of his brain there can be no doubt, but it cannot be believed that the pictures ever appeared on his retina.

As regards hearing, when a person dreams of bells ringing and suddenly starts up with the sound in his ears, it may equally be said by M. Tesla that if his internal ear could be inspected the whole mechanism would be in action. Of course M. Tesla does not make these positive statements, but his suggestions are of this kind and in a theoretical sense are of great importance but cannot be accepted, as they tend to break down our long-cherished views regarding our organisation and the operation of our senses. His statements, too, as regards the actual production of light in the retina are worth consideration. There are many who think cats' eyes are luminous in the dark.—I am, Sirs, yours truly,

Grosvenor-street, June 26th, 1893. SAMUEL WILKS.

"VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES."

To the Editors of THE LANCET.

SIRS,—Nothing of course can be done without money in anything connected with the Volunteer service, but, although in the Welsh Border Brigade there may be no difficulty in obtaining men, the reverse is the case in other brigades; and I again say that to form brigade bearer companies battalion bearer sections have been drawn upon—i.e., regimental bearers have been taken away from their regiments. If Surgeon-Lieutenant-Colonel Giles—whom I know to be an enthusiast in Volunteer ambulance—will refer to the circular orders on the formation of brigade bearer-companies, he will find that my statements were quite correct, and I hope that he and other surgeons of brigade will again endeavour to procure the issue of more favourable regulations in the matter of recruiting for our brigade bearer-companies. The coöperation of the St. John Ambulance Association would be of the utmost value; the Association turns out year by year many men certificated in first aid; scores of these will not volunteer to shoulder a rifle, but would do so to trail a stretcher.

I am, Sirs, your obedient servant,

E. J. LAWLESS,
Surgeon-Captain, 4th V. B., East Surrey Regiment.

June 27th, 1893.

"THE MEDICO-LEGAL SYSTEM OF SCOTLAND."

To the Editors of THE LANCET.

SIRS,—The leading articles in THE LANCET of June 17th and 24th on the medico-legal system of Scotland ought to call attention to the state of matters existing in England and elsewhere with regard to post-mortem examinations into deaths which are the subject of official inquiry. Your recommendations that in medico-legal cases two medical men should take part in every necropsy and that one of the two should be a competent medico-legal examiner will meet with the hearty support of the profession and no one will dispute the desirability of extending them to England. The neglect of the latter recommendation in particular is little short of a public scandal for which the authorities are not altogether blameless. In Scotland, it would appear from your article, it is directed that "the necropsy should be made by a man of experience and reputation residing in a large or central town of the district;" here the nearest practitioner who happens to be called to the case is obliged to make the examination, often much against his will. In private practice there are so few opportunities of seeing morbid anatomy that a medical man has to rely upon the experience of his student days, and yet he may be called upon to decide a pathological question on which depends, it may be, the life of an individual. There is no way of becoming acquainted with pathological appearances except through the post-mortem room, and that is the department a general practitioner avoids, and with good reason; for the risk of carrying septic infection is very real and may come home to him very directly. I know medical men who always refuse on this ground to make a post-mortem examination; others, again, hand the matter over to an assistant or not infrequently to a dispenser, and view the organs at arm's length. Surely this is unsatisfactory where the issue involved may be of the highest importance. I have lately come across an instance reported in the daily papers which illustrates very forcibly the truth of your remarks. The parents of a child about three years old were charged with neglecting and starving it. At the inquest it was given in evidence *inter alia* that the child had ailed for a long time, suffering from repeated vomiting. It had been taken to a dispensary, where it received medicine. The post-mortem examination was made by two medical men, and the following is an account of the evidence, taken from the lay press: "The body was emaciated, weighing 12½ lb. There was a large quantity of fluid between the membranes in the head, and an old adhesion of the membrane to the skull. It appeared to have had either a blow or a fall at some time to produce this adhesion. There was a little effusion from the left lung, and the right lung was solid. The stomach was normal; the liver and kidneys were larger, the liver weighing 11 oz. The intestines were translucent, and there was little fat about the body. In witness's opinion the immediate cause of death was the congestion of the right lung combined with the presence of a clot in the heart and the adhesion of the membrane. The emaciated condition of the child would aggravate the symptoms and accelerate death. The body of the child should have been at least three times the weight it was." The coroner told the jury that from the medical evidence there could be no doubt as to the cause of death, and they had to discover whether the child's legal guardians were responsible. This they found to be the case, and the parents were committed for manslaughter and were tried at the assizes, the mother being found guilty and sentenced to nine months' imprisonment, which she is now serving. It is not very clear from the account what the medical evidence intended to convey as to the cause of death, but the verdict of the jury indicates that the primary cause was considered to be starvation and neglect. Now it is obvious to anyone acquainted with pathological work that the child suffered from chronic brain disease, as shown by "the large quantity of fluid between the membranes," and this would amply account for the extreme emaciation. Further, surely the assertion that the "adhesion of the membrane to the skull" was probably due to "either a blow or a fall" was going too far. We know that it is well-nigh impossible to prove a case of starvation and neglect where organic disease has been found on post-mortem examination, but it would appear that unless your suggestions are adopted it would be well for the Crown to do as in Scotland and provide prisoners with legal assistance in their defence. I am, Sirs, yours truly,

Cardiff, June 27th. D. R. PATERSON, M.D.

"NERVE TRANSPLANTATION."

To the Editors of THE LANCET.

SIRS,—Reading Mr. Moullin's case of nerve transplantation and his failure to obtain a "cure," I send you short notes of a case of mine. Failures teach more than successes. From *a priori* reasoning one would say that if such highly organised structures as nerves were transposed from animals to man failure would be the inevitable result. Last year I had a patient who sustained a compound fracture of the right humerus at the junction of the lower and middle thirds, the result of a fall from a tramcar in motion. To make a long story short, there was non-union of bone and the patient suffered from wrist-drop, paralysis of extensors &c. The patient being a clerk aged twenty-six years, I advised him to let me wire the bones and suture the nerve (musculo-spiral), promising him that, though the upper arm would not be as good as its fellow, the hand and wrist would be quite as good as the left, provided the nerve united. Not being provided with a demonstrator of physiology or the commodities of a hospital, I cut down on the bone, sawed off as much as would allow me to bring the severed ends of the nerve together, then wired the bone and sutured the nerve ends together with four catgut strings. The wound healed by first intention. The result, as far as the patient is concerned, is all that could be desired, as he informs me that he can write as well and for as long a period as he could before the accident. The suturing was done four months and a half after the accident. His right arm is $2\frac{1}{10}$ inches shorter than his left, and as the operation took place more than a year ago I take the "cure" to be permanent. I would remark that Mr. Moullin used a poisoned nerve, since his dog was chloroformed to death, and that if, instead of a demonstrator of physiology killing the dog, a butcher had stunned it and someone dissected out the nerve there might have been a good result. I fail to see that success will follow nerve transposition from animals to man. I am, Sirs, yours truly,

June 27th, 1893. FREDERICK W. MANN.

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—In the natural regret which Dr. L. Phillips feels at the partial success of his attack on these much-abused institutions he recoils from his spring to a somewhat untenable position. That all the medical officers "should resign on July 1st and start practice locally" certainly sounds bold and sweeping. The question is, Will they? and, again, Can they? For, though the ethical instinct may be strong, the pocket may be weak. A multiplication of low practices on the medical aid lines would be no remedy for the abuse of these institutions, even if it could be accomplished. Again, Dr. Phillips appears to recommend a system of severely letting alone any men who retain their positions or who are appointed in the place of the public-spirited officials who may resign. In Loughborough we tried that plan. We saw that the association would include all classes, and before it was actually formed we—that is, the medical men of Loughborough—decided not to coöperate with the gentleman appointed. The result was that the association flourished. The gentleman appointed had a free hand and no opposition in his own sphere; he could command any consultant from Nottingham or Leicester, and had the advantage of appearing to be persecuted. On the appointment of his successor we—wisely, I think—rescinded our resolution, which had done no good, and which had also broken down in a case of emergency on the mere point that humanity overrides professional etiquette. If I may be allowed to suggest a prescription I would say: 1. Let us cultivate, as medical men, so far as we can, a fair dealing with our patients according to their means, always giving them to understand that contract work on low terms is a form of charity and is not really remunerative, and let all medical men refuse to accept as club-patients those who are able to pay moderate fees. 2. Let us coöperate with the provident movement for the poor of the working class, earning weekly wages, and let us endeavour to show them that it is not for their interest that people never largely blessed with gold should share this semi-charity with them. 3. Let the British Medical Association awake to the fact that it has not carried out the programme initiated about the year 1852, when it was the Provincial Medical Association and was going to do great things for the general practitioner. It might do more than arrange scientific discussions and picnics and publish the Journal. It might be the great ethical parliament of the profession and settle once for all this question of the abuse of medical charity by institutions. 4. Let us agitate for more men on the Council who understand a little of the battle of life for the rank and file of the profession, and to whom the status of a medical diplomate is something more than a matter of "minor morals." 5. Let us try to be "true" to our "own selves," and we shall not then be "false" to the club doctor or the club patient.

I am, Sirs, your obedient servant,

Loughborough, June 10th, 1893. J. B. PIKE.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

A Series of Poisoning Cases.

LAST WEEK at Middlesbrough a man went into a stable to attend to his horse at night and it appears that it was his custom to drink a bottle of porter there. When the horse had been seen to this time, however, he drank from a bottle of carbolic acid instead and, although he received immediate attention, he died in about forty minutes. A man has also died at Durham from drinking by mistake carbolic acid supplied by the Durham sanitary authority. It came out in evidence that the authority had supplied the poison for thirteen years and had never labeled the bottles, so that it is no wonder that there are accidents. The coroner said that the distribution of the poison in this careless way was very reprehensible, and the jury made a representation to the authority to exercise more care; but I suppose that this will go on as usual until an alderman or at least a county councillor has been poisoned. A case of poisoning by oxalic acid mistaken for an effervescing powder is also reported.

Sunderland and North Durham Eye Infirmary Bazaar.

It is satisfactory to learn that the amount realised for the building and furnishing fund of the Sunderland Eye Infirmary by the late bazaar amounts to the creditable sum of nearly £1400.

Durham County Hospital.

It is announced that Mr. F. D. Johnson of Aykleyheads, who enjoys the distinction of being "the father of Dunelmians," has recently handed over for addition to the funds of the Durham County Hospital the handsome sum of £500.

Diphtheria.

Diphtheria is prevalent in some of the Durham colliery villages in the neighbourhood of Byers Green; six deaths have occurred in eighteen houses.

Newcastle-on-Tyne, June 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Aberdeen University Senatus.

A SPECIAL meeting of the Senatus was held at King's College on the 24th inst., when there was under consideration the draft ordinance under which it is provided that the classes in the faculties of Arts and Divinity, together with any additional classes which may be taught, or come to be taught, in connexion with these faculties, should assemble at King's College, and that the classes in the faculties of Law, Medicine and Science should assemble and be taught at Marischal College. After considerable discussion a large majority voted for a resolution similar to that adopted by the General Council of the University, that the classes in the various faculties should assemble and be taught in such portions of the University buildings as the University Court might from time to time determine. The Senatus also considered the draft ordinance dealing with the centres at which it and the University Court shall respectively meet. The draft ordinance provides that the Senatus shall meet at King's College and the University Court at Marischal College; it was resolved to represent that the ordinance should be changed so that the bodies named should be free to meet wherever it might from time to time be decided.

Aberdeen Public Nursing Class.

A highly successful course of lectures on sick-nursing, under the auspices of the Aberdeen Ambulance Association, was brought to a close last week, when a public meeting was held under the chairmanship of Sir William Henderson at which the certificates gained by the successful candidates were presented by Miss R. F. Lumsden, honorary superintendent of the Aberdeen Royal Infirmary. The classes have been largely attended and over fifty ladies were certified to have passed successfully a stringent examination. Dr. Scott Riddell, the lecturer, was then presented by the class with a handsome study chair as a token of the high appreciation of the skilful way in which he had conducted the instruction and of the great trouble which he had taken.

June 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Vaccination Amendment Bill, 1893.

THE President and Fellows of the Royal College of Physicians of Ireland have forwarded the following petition to the House of Commons:

"HUMBLY SHOWETH,—That your petitioners, having carefully considered a Bill to amend the Vaccination Act of 1867 prepared and brought into your honourable House by Mr. Secretary Asquith and Mr. Henry Fowler, and ordered to be printed on May 11th, 1893, are of opinion that were it to become law it would be injurious to the interests of public health in Ireland, inasmuch as the College believe that by Clause 1 Sub-clause 1, the whole principle of compulsory vaccination is abandoned, and as a consequence of this the total appeal of the vaccination laws can scarcely with reason be resisted in the future. Furthermore, if it be necessary for the safety of any community that compulsory vaccination should be carried out in any form, the College hold that persons by refusing to be vaccinated are endangering the health of that community. They also believe that this Bill would, if passed, render the working of the existing vaccination system impossible if parents came to the knowledge that by paying a small fine in respect of one child they would be relieved thereafter from all trouble connected with the vaccination of their future children. Also, that serious difficulties would arise if the public vaccinator had to keep a record of all persons who, having been once fined, were exempted from a fine in the future for a similar offence. For these reasons the College consider that this Bill, were it to become law, would be distinctly

dangerous to the health of the country. Therefore your petitioners do pray your honourable House to reject this Bill, and your petitioners will ever pray.'

Precautions against Cholera.

The Public Health Committee of Dublin are making elaborate preparations for the conveyance of patients to hospital should cholera visit our shores, also for affording medical aid previously to their removal and in other cases should such be required. The several dispensaries in the city are to be placed in telephonic communication with the office of Sir Charles Cameron, medical superintendent officer of health, so that the promptest intimation may be given and immediate measures taken to deal with any case occurring. Sir Charles Cameron has reported to the committee that from inquiries he had made it might fairly be assumed that there would be no difficulty in providing for the reception of 500 patients in the Dublin hospitals. As the disease is of short duration this accommodation would be ample, even if there was a severe epidemic, which there is reason to hope will not be the case.

Blackrock and Kingstown Main Drainage Bill.

The Kingstown Town Commissioners have adopted a resolution instructing their solicitor to file a petition against the Bill in the House of Commons, and that it be so framed as to oppose the passing into law such an objectionable, onerous, and ruinous Bill, as they allege it to be, to Kingstown. Lately some clauses have been added to the Bill for the protection of the railway company, the Harbour Commissioners and others without the knowledge and approval of the Commissioners. The Bill contains seventy-eight clauses, which provide for the raising of £40,000 to construct works for the collection of all the sewage flowing from 3000 acres of watersheds in which Blackrock township is situate. This sewage it is proposed to divert from Blackrock seashore and send in an undiluted state into Kingstown township, where it would be collected in large tanks and mixed with the local sewage. Thence all would be conveyed in pipes to near the end of the West Pier for discharge into the sea. One of the proposed clauses was that the works should not be commenced until the railway company's engineer gave his written consent, and the works were to be executed under the superintendence of the company's engineer, and no manholes or ventilators were to be constructed on railway property without their written consent, and such other works as the company considered necessary should be provided. If at the end of five years any existing nuisance was not abated the company might compel the drainage board to construct new works, or in default the company to construct works at the expense of the township. There were other clauses said to be objectionable and the Kingstown Commissioners, on behalf of the great bulk of the ratepayers, have determined to take action in the matter and prevent if possible the Bill becoming law.

British Medical Temperance Association.

The annual meeting of the Dublin branch was held last week, presided over by Dr. McD. Cosgrave. The object of the association, as the president pointed out, was to try to unite medical men and students and to promote sobriety by means of total abstinence. Members are at liberty to use alcohol as medicine, but it is essential that the members and associates shall be total abstainers. The members number forty, about the usual number, and the student associates twenty-three, showing a serious decrease. A resolution was adopted that a home for inebriates was greatly needed in Ireland, a home to which patients could be admitted on payment of the cost of their maintenance.

Complimentary Dinner to Mr. M. A. Donnelly, F.R.C.S.I.

Mr. Donnelly was entertained by his friends in the Shelbourne Hotel on Saturday evening last. The dinner was given to congratulate Mr. Donnelly on having recently been unanimously elected visiting surgeon to the Westmoreland Lock Hospital. The chair was occupied by Sir C. Cameron.

Vice-Regal Visit to the West.

His Excellency the Lord Lieutenant, who is visiting some places on the western coast, on his arrival last Monday at Galway visited the Queen's College and was presented with an address from the president and professors of the College. They pointed out that their institution was founded to serve as a local centre of literary and scientific culture and to bring the advantages of university education within the reach of the people of Western Ireland. It claimed to have given an impulse to educational progress throughout the country, and more especially to have conferred substantial benefits on the youth of a remote and outlying province which might be seen in the number and the careers of the men who had proceeded from its various schools of arts, law, medicine and engineering. Before his Excellency's departure he, his suite, the president and professors were photographed in a group.

Rotunda Lying-in Hospital, Dublin: Clinical Report.

The report of this institution for the three years 1889–90, 1890–91 and 1891–92, by the Master, recently brought before the Royal Academy of Medicine, is a paper of considerable interest and well worthy of perusal. During the period referred to 3602 women were delivered in the hospital with a mortality of thirty-seven. Dr. Smyly (Master) remarks that, in considering the death-rate in a lying-in hospital it must be remembered that the number of difficult and dangerous cases admitted is abnormally large; but the institution must bear the responsibility for all cases of septic infection contracted within its walls, and its merits as an asylum for lying-in women is shown more by a low morbidity than by the actual mortality. In 1889-90 10 deaths occurred from some form of blood-poisoning, or about 0 83 per cent., whilst amongst the 2403 women delivered during the two subsequent years there was not a single death from this cause.

Mr. M. F. Cahill has been appointed assistant physician to the Children's Hospital, Temple-street, Dublin, and Mr. M. T. Dempsey to be assistant surgeon.

June 27th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Water Filtration and Cholera.

IN a recent publication bearing this title Professor Koch declares his opinion that the direct infection of cholera from person to person is possible but does not often occur, and that in epidemics indirect infection, especially by water, is far more frequent. The late epidemic in Hamburg was undoubtedly due to infection of the Elbe close to the point at which the Hamburg water-supply was taken. The comparative immunity enjoyed by Altona is shown to be due to the fact that it has a different water-supply. The Altona water is drawn from the Elbe at a point below the town of Hamburg and below the points at which Hamburg and Altona discharge their sewage into the Elbe. The Hamburg water was delivered unfiltered to the consumers; the Altona water, originally far more contaminated, was filtered through sand before delivery. Professor Koch alleges that it is to the careful way in which this filtration was carried out that Altona owed its comparative escape in the summer of 1892. The outbreak of cholera in Altona in the beginning of this year is shown to have been due to the freezing of the upper sand layer of a filter bed whilst it was being cleaned, the frozen layer thawed unequally and at the thawed places the rate of filtration was too great to completely cleanse the water. The layer of slimy matter which forms on the surface of a filter bed is the real filtering agent, but this layer gradually becomes so close that it will not let the water through and has to be removed; it is of the greatest importance that the water which first passes through such a cleansed filter should not be used, since till the formation of a slime layer the filtration is inefficient. Professor Koch gives the following points as essential in the management of filter waterworks: (1) the rate of filtration must not exceed 100 millimetres per hour and every single filter-bed must be furnished with an arrangement by which the rate of filtration can be controlled; (2) every single filter basin so long as it is in action must be daily tested bacteriologically; and (3) filtered water containing more than 100 germs capable of developing in a cubic centimetre should be rejected. To sum up, water filtration does not deserve implicit confidence, and, if relied upon, must be carried out with great care and under thoroughly efficient scientific control. Speaking of filters for household use, Professor Koch says he knows of no such filter which could be relied upon to act satisfactorily for any length of time and he does not advise anyone to trust to such filters when cholera is prevalent. Bored wells are spoken of in the highest terms and a useful suggestion is made by which ordinary surface wells may be converted into bored wells. An iron pump tube being put down to the bottom, the well is to be filled to the water level with shingle and then to the well edge with sand.

Cholera Precautions.

The German Government, amongst other measures for preventing an invasion of cholera, is taking care that as many medical men as possible shall be acquainted with the methods of diagnosis which have been found to give the quickest and most reliable results, and for this purpose has appointed Professor Koch, on whose recommendation the step has been taken, to the control of the arrangements.

Immunity in Diphtheria.

The experiments which Behring in the Institution for Infectious Diseases, and Aronson in the Laboratory of the Agricultural College, Berlin, are conducting with the object of providing a serum, or a product from serum, which can be used in convenient doses for the treatment of diphtheria have been attended with a very considerable degree of success; but it appears that there are great difficulties in raising the degree of immunity sufficiently high and at the same time preserving the animals in health. There can, however, be little doubt that sooner or later the zeal and talent of these experimenters or some of their fellow-workers in the same field will be rewarded, and that we shall have, in a convenient and reliable form, a specific remedy against one of the most fatal diseases.

June 28th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Syphilis by Injection of Blood-serum.

PROFESSOR THOMASSOLI of Modena has recently published an article in a Vienna medical paper in which he maintains that he has obtained excellent results by treating cases of secondary syphilis with injections of the blood-serum of the lamb and calf. Thirteen patients were treated by him in this way, and were cured, as he stated, within a few weeks. From 2 to 8 cubic centimetres were injected into the muscles with a Tursini's syringe on each occasion, the total number of injections varying in different cases from six to thirteen. The only obvious effects of injection were slight fever, pain and local induration.

Osteomalacia.

At the last meetings of various medical societies of Vienna different physicians gave their views respecting the frequency of the occurrence of osteomalacia. The chief symptoms of this disease in its latent stage, when it was liable to be mistaken for chronic myelitis, were stated to be pains in the limbs, over-sensibility to pressure on the spinous processes of the vertebræ and on the iliac bones, and especially contracture of the adductors of the thighs. It was also stated that the disease was curable by the internal administration of phosphorus. One speaker said that he had observed recovery follow in one instance after a single administration of chloroform, whilst etherisation was without effect.

The Constitution of the Provincial Medical Councils.

The Bill relating to the constitution of the provincial medical councils has now come into operation. In Upper Austria, Styria, Moravia, Silesia, Carniola, Galicia, Dalmatia and Bohemia, the members of the local medical councils were elected by the physicians and surgeons resident in the several districts. In some of the provinces the working of the system, it is expected, will be considerably impeded by the influence of different national problems.

Honour to Professor von Pettenkofer.

At the last meeting of the Medical Society of Vienna it was resolved to elect Professor von Pettenkofer of Munich, an honorary member, in commemoration of his seventieth birthday, June 30th.

The Successor of Professor Kahler.

At the last meeting of the "Professors' College" of the Medical Faculty of Vienna, Professor Naunyn of Strasbourg, was proposed as successor to the chair of Medicine, vacant by the death of the late Professor Kahler. Professors Epinger of Gratz, Chiari of Prague, and Weichselbaum of Vienna, were nominated for the vacant chair of Pathological Anatomy.

Vienna, June 25th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Amendment of the Medical Act.

THE Medical Act was slightly amended at the last session of the Legislature of Ontario, the number of elected members being increased from twelve to seventeen councillors who shall hold office for four years and if ceasing to be residents of the district for which elected shall be forthwith disqualified as representatives. The elective members shall alone have the right to vote as to what the annual fee (tax) shall be. The examining board has been increased by one member not connected with any of the teaching bodies of the province.

Public Charities.

From the twenty-third annual report of the Inspector of Public Charities the following brief facts are culled: There are 29 hospitals in the province of Ontario; during the year 11,404 patients were admitted; the average stay of each person was 31 days, the total cost of maintenance being $278,200,11, and the average cost per head per day 79 31 cents. (about 3*s.* 3½*d.*). The Toronto General Hospital, "the best hospital in the province as regards accommodation and management," adds the report, had under treatment 3075 patients, of whom 1742 were males and 1333 females. The revenue was $86,720.83 and the total expenditure $71,444 90. The amount received from the Province was $24,525.43 for the city of Toronto $17,315.60 and from pay patients $17,667.80.

The election for the Medical Council for British Columbia was held on April 24th last with the following results: Dr. Milne, Dr. Harrington, Dr. Davie and Dr. Duncan of Victoria; Dr. Lefevre and Dr. McGuigan of Vancouver; and Dr. Wolf-Smith of Westminster. At the first meeting, held on May 2nd, Dr. Harrington and Dr. Lefevre were elected President and Vice-President respectively.

The McGill University medical faculty has recently been further enriched by a bequest of $100,000 made by Mrs. Dow to its general funds; a gift of $60,000 from Mr. J. H. R. Molson to be devoted to the erection of three laboratories for chemistry, pathology and hygiene; and by a gift of $100,000 from Sir Donald A. Smith for the endowment of the chairs of Hygiene and Pathology.

Dr. Adami of Cambridge University has been appointed to the chair of Pathology in the above university.

Professor Stewart McGill has been appointed chief of the medical staff of the Royal Victoria Hospital, Montreal.

The election of officers for Toronto's two medical societies was held last month, Dr. J. F. W. Ross being elected president of the Medical Society and Dr. Laughlin McFarlane president of the young but active Clinical Society.

Toronto, June 3rd, 1893.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Influenza.

In January last some cases of influenza in various stages of coughing convalescence were received here from Europe, and the first case discovered this winter in a resident of Cairo was on Feb. 1st, after which a very mild epidemic took place amongst the Europeans, which seemed to pick out many of those who had escaped the disease in previous outbreaks. Amongst the natives influenza was also seen at the end of February, when several infants in a hospital ward were simultaneously attacked. Three of these infants died and the influenza bacillus was discovered in their lungs by Dr. Kauffmann. Influenza does not yet figure amongst the causes of death in the Government statistics; but it is significant to note that the mortality in Cairo of children under five years went up from 151 during the first week of February to 235 and 237 per week at the beginning of March. The total death-rate for those weeks only went up from 293 to 365 and 375, the increase being solely due to deaths in children from broncho-pneumonia and diarrhœa. The winter and spring months were exceptionally favourable, which perhaps accounts for the general mildness of the influenza. Chest disease amongst animals was also very rare, though during the corresponding months of last year, when human

influenza was prevalent, it was unusually frequent, especially in horses.

Typhus Fever.

Typhus fever, once thought to be unknown in Egypt, is now found with great regularity every spring. During 1892 thirty-one cases, including seven women, were admitted into hospital and at once despatched to the tents for infectious diseases in the desert. Many of the cases were amongst negroes and all were admitted between February and August. In the present year the first case was admitted on April 3rd, apparently as a direct consequence of overcrowding and ill ventilation during the cold months. Typhus fever has been reported from six provinces, mostly in Lower Egypt, and has accounted for about a hundred deaths, the number of cases under treatment on June 1st being ninety-five. Typhus and relapsing fevers are returned under one heading because those who supply the statistics cannot be trusted to differentiate them.

Small-pox.

Small-pox, chiefly from Lower Egypt, has been reported from six provinces and is said to have caused about eighty deaths during the last four months. The sanitary department hopes to establish at once a Vaccine Institute in Cairo, where the public will receive better vaccination than at present, and where medical students and provincial barbers will be taught efficiency.

Measles.

A negress suffering from measles was brought last month to Kasr el Aini and correctly diagnosed by the native house physician. The eruption could be easily seen and felt. This disease has been reported from four provinces and is said to have occasioned nearly 200 deaths.

Scarlet Fever.

Scarlet fever is very rare amongst the natives and must be difficult to diagnose unless in an epidemic form. There are now, however, several cases amongst the English soldiers and children of the army of occupation.

Death under Chloroform.

After some 12,000 operations preformed at Kasr el Aini during the last nine years there has now been the first certain death due to chloroform poisoning. The case will be reported in full, so that I need only say here that the patient was a man aged thirty-five, who, after being successfully cut for stone, suddenly vomited on being carried back to his bed and died. At the necropsy his lungs were found to be very hyperæmic, like the lungs of suffocation; his heart was flabby and contained very little clot, and his brain showed degeneration of the right optic nerve. The urinary passages showed considerable change due to the presence of bilharzia and calculi. In the bladder were found many cysts, and the ureters were larger than a man's thumb and contained many diverticula and urinary concretions. In the portal vein were about thirty adult bilharzia worms.

Cairo, June 14th, 1893.

Obituary.

BRIGADE-SURGEON WALTER BASNETT RAMSBOTHAM, M.D. LOND. &c.

THIS meritorious officer died almost suddenly at 15, Amwell-street, Clerkenwell, on June 11th. This address was familiar to medical men a few years ago as that of Dr. Ramsbotham's father, one of the old and much esteemed practitioners of the district. Dr. Basnett Ramsbotham was never married, and when he retired four years ago from the service in which he was so respected and beloved he could find no more pleasant residence than the old house in which his father lived and died, and where his sisters still live. He spent most of his leisure days in scientific study, especially in that of geology and natural history, which were his favourite recreations, or in pleasant reading. The lectures of the Royal Institution or other such lectures were what he most liked. Such leisure, so well used and so sadly cut short at the age of sixty, had been well earned by long and active and varied service, extending over twenty-five years, in India, Afghanistan, Canada and Egypt. His later services were in the Afghan war from 1878 to 1880, for which he received a medal, and in the Egyptian war of 1882, for which he received the medal and the Khedive's bronze star. His character and the impression which it made on those with whom he worked may be gathered from the following lines by a friend of his later years: "He served with me in Egypt in 1883-84 and during a severe cholera epidemic in Alexandria, when he did excellent work. He was a very able and accomplished medical officer, of superior scientific attainments, with large experience, clear judgment, kind and genial manner, and was very popular with all classes in the service and out of it. His society as well as his services were much appreciated by all." Dr. Ramsbotham was one of those few men who had scarcely known illness in his threescore years. On the last day of his life he told his friend and neighbour, Mr. May, to whom we are indebted for some particulars of his death, that during the twenty-five years of his service he had never been away a single day through sickness, having enjoyed excellent health. About four years ago, when he first came home, he had a slight attack of ague, which readily gave way to quinine. About three months ago he complained of some epigastric pain and discomfort after food, for which he dieted himself carefully. He seemed to improve and went to Bournemouth for three weeks. In the week preceding his death he was at two or three social gatherings. On the day before his death (Saturday) he had some pain, but would insist on taking his sisters to the opera as he had arranged. Here he became worse and had to return home. Mr. May was summoned at 9.30 P.M. to find symptoms of acute peritonitis. On the Sunday following, at 6.55 P.M., with the thoughtfulness of fine natures, he sent a message to Mr. May saying that he was feeling fairly comfortable and that he need not call. At 7.5 P.M. he suddenly passed away in syncope. Mr. May and two other medical neighbours found on post-mortem examination a perforation of the duodenum close to the pylorus and very acute general peritonitis, with a considerable quantity of sero-purulent effusion. The other abdominal viscera, including the spleen, were quite healthy. It is superfluous to add that in the Church of St. Mark's, which he served as churchwarden, in the local society which he adorned, and in the old home in which he came to rest so happily the death of Dr. Ramsbotham has caused a great sense of grief and loss.

ALEXANDER HENRY, M.D. St. AND., M.R.C.S. &c.

WE regret to announce the death of Dr. Alexander Henry, which occurred at Newport Pagnel on June 24th. Dr. Henry devoted thirty-four years of his life to the service of the British Medical Association and its Journal, of which he was sub-editor. He was for years a familiar figure at the annual meetings. Dr. Henry was a very learned man and could translate with facility the articles in medical journals published in languages little studied by Englishmen. He was born in 1822 near Kingsbridge, Devon, his father being Lieutenant-Colonel Henry, a Peninsular veteran.

MEDICAL TRIAL.

ALLINSON *v.* GENERAL MEDICAL COUNCIL.

THIS action was, on Monday last, tried in the Queen's Bench by Mr. Justice Collins. The plaintiff was a registered medical practitioner whose name was in May, 1892, struck off the Register upon the ground that he had committed an offence which, in the opinion of the General Medical Council, was "infamous in a professional respect." The charge made, and which upon inquiry the Council held to have been substantiated, was "that being a registered medical practitioner and Licentiate of the Royal Colleges of Physicians and Surgeons of Edinburgh, he systematically seeks to attract practice by a system of extensive public advertisements containing his name, address and qualifications and invitations to persons in need of medical aid to consult him professionally, the advertisements so systematically published by him being themselves of a character discreditable to a professional medical man." The plaintiff sought by his action to recover damages against the Council, a declaration that the decision of the Council against him was invalid and

an injunction and mandamus to give effect to the declaration by compelling the Council to restore the plaintiff's name to the Register.

The grounds upon which the plaintiff based his complaint were three. First, he objected to the constitution of the Council, that it contained one member who had until shortly before the date of the inquiry been officially connected with the Medical Defence Union, by which the charge investigated by the Council had been preferred, and who was alleged, by reason of his connexion with the promoters of the accusation, to be disqualified from acting as a judge of the matters in question. In the second place, he alleged that the Council in coming to a conclusion had been influenced by a consideration of his—the plaintiff's—opinions on vaccination and the use of drugs and such like theories of medicine, and, although ostensibly acting upon the occasion of the advertisements impugned, had really acted maliciously and in disregard of their duty in the exercise of a judicial function. Lastly, he objected that the inquiry was improperly conducted and that no opportunity was afforded to him of seeing or answering the evidence laid before the Council.

The learned judge at the opening of the case expressed a doubt as to whether he had jurisdiction to pronounce upon the validity of the decision at which the Council had arrived and suggested that the proper tribunal to set aside such a decision, if it were to be set aside, would be a divisional court. Mr. Muir Mackenzie, on behalf of the General Medical Council, intimated that he did not wish to press any objection to the jurisdiction, and explained that in previous cases of this kind the conduct of the inquiry by the Council had been considered by the judge at the trial of the action, although there is in the High Court of Justice no jurisdiction to review the decision of the Council, or to consider whether the conclusion at which the Council may have arrived had been properly deduced from the evidence laid before it. Eventually, without deciding the question of jurisdiction, the judge consented to follow the same course which had been previously adopted, and the case proceeded accordingly.

The first objection mentioned above—namely, that taken to the constitution of the Council, was one which was much discussed in the case of Leeson *v.* the General Medical Council, tried in the year 1890. The contention was then put forward that mere membership in the Medical Defence Union was sufficient to disqualify a member of the General Medical Council from sitting upon an inquiry in which the Defence Union appeared as promoters of the charge. In that case, however, it was held by the Court of Appeal that this was not a sufficient objection. It appeared upon an examination of the constitution of the Union that unofficial members would not of necessity take any part in the promotion of charges before the General Medical Council, nor would they be in any way affected in a pecuniary sense by the result of such an inquiry since the Council has no power to award costs. In the absence, therefore, of evidence that an unofficial member had been personally active in the promotion of a charge it was held that his mere membership did not involve any such participation on the part of accuser as should disqualify him for acting as judge. In the present case, therefore, an attempt was made to put the plaintiff's case higher than it was put in Leeson's case, and the objection now made was that the member of the Council objected to had been a vice-president and one of the executive committee of the Defence Union until May 3rd, and the Court was asked to say that this disqualified him from sitting upon the inquiry on May 28th. This, however, did not suffice to distinguish the present from the earlier case. The member in question was elected to the General Medical Council on May 3rd, and forthwith resigned his seat upon the Executive Committee of the Defence Union. The proceedings in respect of which he took part as a member of the Council were not instituted until May 14th, and although the Union had at an earlier date brought the case of Dr. Allinson under the notice of the Council, the member in question had personally taken no part in those earlier proceedings. Upon these materials the rule laid down in the Court of Appeal was held to apply to the present case.

With respect to the remaining objections, it is not necessary to say more than that they could not be substantiated. The evidence submitted satisfied the learned judge that the inquiry had been honestly and properly conducted, and he accordingly dismissed the action, with costs against the plaintiff.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a further list of sums received at the Mansion House. Up to the time of our going to press the total sum amounts to about £34,000.

	£	s.	d.
St. Jude's, South Kensington	861	1	1
West London Synagogue, Upper Berkeley-street	241	17	6
St. James's Parish Church, Paddington	110	15	8
George Palmer, Esq. (a further)	105	0	0
St. Paul's, Beckenham	112	16	11
St. Michael and All Angels, Blackheath	70	2	8
St. Columb's, Notting-hill	25	0	0
St. Mary and St. John the Divine, Balham	73	2	9
West Hackney Parish Church	43	0	6
Stamford-hill Congregational Church	82	7	3
Bromley, Kent, Congregational Church	64	14	9
Leytonstone Congregational Church	29	0	6
Parish Church, Wimbledon	35	7	2
Christ Church, Wimbledon	63	3	9
St. John's Church, Wimbledon	32	12	1
Emmanuel Church, Wimbledon	62	0	9
St. Mark and St. Matthew's Church, Wimbledon	11	8	11
St. Bartholomew the Great	26	16	2
Acton Parish Church with St. Andrew's Mission	48	6	4
St. James's, Holloway	84	2	0
Ascension Church, Lavender-hill	20	13	5
St. Peter's, Eltham-road	28	6	8
St. Luke's, Homerton	24	7	3
St. Peter's, Eaton-square, and Chapel	601	10	6
St. John's, Wilton-road	81	14	0
Immanuel Church, Streatham-common	102	1	7
St. Marylebone Presbyterian Church	191	10	9
St. Paul's, Avenue-road	73	16	6
St. Mark's Presbyterian Church, Greenwich	28	11	5
Magdalene Hospital Chapel, Streatham	31	0	3
St. Paul's, Walworth, and Missions	24	18	1
Christ Church, Harrow-road	22	12	9
St. Andrew's, Stoke Newington	28	18	0
St. John's Wood Presbyterian Church	91	0	7
St. John's, Notting Hill	67	0	8
Gray's Inn Chapel	35	5	1
St. George's, Campden hill	36	10	5
Holy Trinity, Beckenham	51	6	1
St. Mary's Parish Church, Islington	21	0	0
St. Mary's, Newington, with St. Gabriel's Mission	23	1	7
St. Dunstan and St. Faith's, Stepney	22	18	6
Wilmington Parish Church	21	8	3
St. Dunstan's, East Acton	20	1	4
South street Baptist Chapel, Greenwich	25	6	7
Christ Church, Cold Harbour, Surrey	29	6	3
Upper Norwood Congregational Church	32	12	8

Medical News.

UNIVERSITY OF OXFORD—At the meeting of Convocation held on June 22nd the following degrees were conferred :—

Doctor of Medicine—Charles D'A. Collings, Trinity.

Bachelor of Medicine.—Harry Cooper, Queen's; Frederick W. A. Stott, Queen's; William J. C. Merry, Magdalen; Arnold F. Bill, Brasenose; William H. Wilson, Keble; John B. Leathes, New.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN'S-SQUARE.—The annual dinner of the friends of this charity was held on the 23rd ult. at the Hôtel Métropole, when the Earl of Dudley took the chair and 120 ladies and gentlemen were present. The chairman, in proposing the toast of the evening, said it would be impossible to exaggerate the value of the hospital, which was devoted to the relief of some of the most pitiable of all human infirmities. They had had patients from not less than 1500 towns of the United Kingdom and many from foreign countries. The need of such an institution as the one whose claims he was advocating was seen in the fact that some 130,000 persons died yearly from nervous diseases. Canon Duckworth, in replying to the toast, reminded his hearers that against the class of patients whose troubles were alleviated or cured at Queen's-square all general hospitals are closed. This hospital could now accommodate 180 inmates, though in 1859, when the institution was inaugurated, they had only ten beds. In responding to the toast of his health as chairman, Earl Dudley spoke of the loss of the *Victoria*, on board of which his brother was serving and who was amongst those who were saved. To commemorate his escape the earl, in company with his brother and sister, had determined to contribute £1000 to the funds of the hospital for the purpose of endowing a bed. At the close of the meeting subscriptions to the amount of £2595 were announced.

BEQUESTS.—Mrs. Ellen Bergin has bequeathed £50 to St. Vincent's Hospital, £50 to the Mater Misericordiæ Hospital, and £50 to the Hospice for the Dying.

PROFESSOR DEWAR'S RESEARCHES.—Sir James Crichton Browne, treasurer of the Royal Institution, has received from Mr. Ludwig Mond, F.R.S., a cheque for £500, to be devoted to the continuation of Professor Dewar's researches.

HOSPITAL CONVALESCENT HOME, PARKWOOD, SWANLEY.—This home was opened on the 7th inst. for the reception of patients from the London, Guy's, St. Thomas's, St. Mary's, Middlesex and Westminster Hospitals. Provided that the patients can travel the distance (seventeen miles) severe surgical as well as medical cases are eligible. A staff of fully-trained nurses is provided for the 120 patients.

PRESENTATION.—At the usual meeting of the members of the Loyal Friendship Lodge of Oddfellows (N. and N. Unity), held at the Crown Inn at Smallburgh in Norfolk on June 24th, Mr. Secretary Ward, on behalf of the assembled brethren, presented Mr. W. J McFarland, the medical officer of the lodge, with a case of surgical instruments as a slight token of the appreciation in which his services are held.

INTERNATIONAL GYNÆCOLOGICAL PRIZE. — The Belgian Gynæcological and Obstetrical Society has just decided to offer an annual prize for international competition for the best essay on a given subject to be selected by the Society, the intention being that a gynæcological and an obstetrical subject shall be proposed in alternate years. The first subject is as follows: Chercher à établir par des expériences personnelles, anatomiques, physiologiques, chimiques etc. le rôle rempli dans l'organisme par l'écoulement menstruel. The essays must be written in French and addressed to the Secretary of the Society, M. Jacobs, 12, Rue des Petits Carmes, Brussels, before Sept. 1st, 1894. Each must bear a motto and must be accompanied by a sealed envelope bearing the same motto and containing within the name, address and titles of the author. The prize is a sum of 300 francs.

ACCOMMODATION FOR INFECTIOUS DISEASE IN LONDON.—On Wednesday afternoon a conference of delegates representing twenty-three London sanitary authorities, convened by the Marylebone Vestry, was held at the Courthouse, Marylebone-lane, to consider the inadequate hospital accommodation existing in the metropolis for cases of scarlet fever and diphtheria. Mr. Churchwarden F. Stokes, of the Marylebone Vestry, presided. At present, he said, Marylebone alone had sixty cases of scarlet fever and diphtheria for which there was no accommodation. Mr. G. Margerison, chairman of the Marylebone sanitary committee, moved: "That, in view of the urgent necessity of further provision being made for the rapidly-increasing number of persons suffering from infectious disease, and the declared inability of the Metropolitan Asylums Board to provide the necessary accommodation, this conference do appoint a deputation to wait upon the Local Government Board for the purpose of urging them to facilitate the acquisition of sites by the Metropolitan Asylums Board, or the provision of suitable buildings." The resolution was adopted.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, BLOOMSBURY.—The new wing of this hospital was opened on Saturday last, June 24th, by the Prince and Princess of Wales. After the dedication service, which was read by the Bishop of Rochester, the Duke of Fife, as president of the hospital, thanked their Royal Highnesses for their assistance, and Mr. Arthur Lucas (chairman of the hospital committee) presented the Prince and Princess with an address containing an account of the hospital, which was opened forty-one years ago. The original building was a small house containing twenty beds and was the first hospital to be exclusively devoted to the study and treatment of the diseases of children. Nearly twenty years ago the older portion of the present building was commenced and the sum collected by the children of England in commemoration of Her Majesty's Jubilee has been by the Queen's consent devoted to the completion of the hospital. His Royal Highness said it gave both himself and the Princess very great pleasure to open a new portion of that building the foundation-stone of which they laid some twenty years ago. At the conclusion of the proceedings Mr. Adrian Hope, the secretary, announced that the sum of £3500 had been obtained as the result of the ceremony.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—The following Prizes and Scholarships have recently been awarded:—The Lawrence Scholarship and Gold Medal, value 40 guineas, to A. S. Blackwell, M.B., B.S., B.Sc. Lond. The Brackenbury Medical Scholarship, value £30, to H. L. Brooksbank, M.B., B.A. Cantab. The Brackenbury Surgical Scholarship, value £30, to J. S. Sloane, B.Sc. Lond. The Matthews Duncan Medal and Prize, value about £20, to (1) J. Morrison, (2) F. A. Bowes. This is the first occasion on which the Medal and Prize founded by subscription in memory of the late Dr. Matthews Duncan has been awarded.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Margarine Act.

A BILL to amend the Margarine Act, 1887, and the Sale of Food and Drugs Act, 1875, has been prepared and brought in by Messrs. Horace Plunkett, Barbon, Arnold Foster and Butcher. It will come into operation on Jan. 1st, 1894, and the Act may be cited as the Margarine Act, 1887, and the Sale of Food and Drugs Act, 1875, Amendment Act, 1893. Several sections of the former statute are to be repealed, and after the commencement of the new Act it shall not be lawful to colour margarine in the process of manufacture or to mix it with butter artificially coloured, and no substance sold as butter shall contain any other fat than butter fat. Margarine will not be allowed to be manufactured or sold except under a licence granted by the local authority, and such licence is not to extend beyond one year. Every dealer in margarine is to have affixed to his shop or manufactory a notice to the effect that the person is licensed to deal in margarine. Packages containing margarine are to be marked or branded on the top, bottom and sides, and to be issued, if by retail, in brick-shaped blocks. Provision is made for the analysis of any substance sold as butter and for the issue of certificates by the analyst recording the result of his investigation. Special travelling inspectors are to be appointed by the Local Government Board for the purpose of organising systematic inspection by means of deputies.

The Registration of Stillbirths.

A Blue-book dealing with the subject of stillbirths has just been printed by order of the House of Commons. Twelve questions cognate to the subject had been addressed to the registration authorities of the United Kingdom, France, Spain, Germany, Austria-Hungary, Italy, Russia, Norway, Sweden, Denmark, Canada, Australia, New Zealand and the United States. To these inquiries full and specific answers have been returned from each authority, and the information thus conveyed cannot but prove of high value and interest to humanitarians and statisticians alike.

Cholera Precautions.

Mr. Leon has given notice of a motion for Friday, July 7th, to this effect: "That it is desirable that financial assistance should be afforded from Imperial funds to local authorities to enable them to make the necessary expenditure to deal with an attack of cholera." Mr. O'Driscoll has given notice of an amendment declaring that such expenditure should be met out of local taxation.

The Marking of Foreign Meat.

At the sitting of the House of Lords' Select Committee on June 16th, which concerns itself with the question of the marking of foreign meat and which was presided over by the Earl of Onslow, several witnesses were examined. It would seem from the evidence of Mr. Black, agent for the Queensland Government, that the beef imported from that colony is openly sold in London as frozen meat or retailed as English at higher prices. It would be difficult to mark it when retailed in small pieces. The Queenslanders were prepared to mark it in the way the British Government thought desirable. Opinion would appear to be divided in New Zealand on the subject of marking. Their principal trade was in mutton. Mr. Percival, agent-general for that colony, said that the traders most interested in the question were against marking. The colonists were willing to rely on the quality of the mutton exported to sustain the trade. He had failed to discover any system of marking which was not unsightly and not vexatious to the export trade. Other witnesses gave similar testimony.

THE HOUSE OF LORDS.

MONDAY, JUNE 26TH.

Barbed Wire Fences Bill.

On the report of amendments to this Bill Lord Halsbury proposed to amend Clause 3 by leaving out the words "by summary order" and to insert certain clauses giving the right of appeal to Quarter Sessions. The amendment was, however, negatived; and another amendment proposed by Lord Monkswell, was postponed.

THE HOUSE OF COMMONS.

THURSDAY, JUNE 22ND.

The Drainage of Coventry.

On the order for the third reading of the Local Government Provisional Orders (No. 17) Bill, Mr. Ballantine, as member for Coventry

protested against the course which had been taken and called attention to the circumstance that that city, after having entrusted its interests to the Local Government Board for more than a year, had found itself *minus* some thousands of pounds and yet was destitute of a drainage scheme.—Mr. H. Fowler called attention to the fact that the House of Commons was supreme over the Local Government Board. Personally he did not like the scheme which had been proposed and sanctioned it only with the greatest reluctance. The Bill was read a third time.

MONDAY, JUNE 26TH.

The London Improvements Bill.

This Bill was brought under consideration by Mr. E. B. Hoare, who moved the rejection of Clause 41, which empowers the County Council to assess, with certain limitations, the improved value of property due to public improvements, the nature of which he specified. He held that it was impossible to estimate justly the increased value given to property by such improvements and the House had no right to sanction the proposal.—Mr. Kimber seconded the amendment. When a Bill of the kind proposed was passed it was likely to be followed by others on the same lines.—Sir J. Lubbock said the opposition to the clause seemed to be based on a misapprehension—viz., that it was a disguised attack on property. That was not so. Under the system which had hitherto prevailed, ratepayers as a whole were required to contribute to the expense incurred by betterment.—Mr. Stuart also opposed the amendment.—Mr. H. Fowler deprecated the discussion of details which had been fully considered by a committee.—Mr. Goschen said great difficulties must always arise in the application of details to the principle of betterment; and on a division the clause was carried by 216 to 118.

Asylums Board Hospital Accommodation.

This question was brought forward by Mr. Talbot, who asked the President of the Local Government Board whether, in view of the defective accommodation provided in the hospitals of the Metropolitan Asylums Board for sufferers from infectious disease, he would give instructions that matters of such moment should be brought under his personal attention.—Mr. Fowler said he could only repeat what he had stated in reply to a similar question—namely, that it was his desire to assist in every possible way the managers of the Metropolitan Asylums district and to facilitate the carrying out of any proposals which they might make to provide permanent additional accommodation for such cases.

The Value of the Rupee.

This question was raised by a communication addressed by the Viceroy of India to Mr. Gladstone, who read a telegram communicating the result of the steps which had been taken with regard to Lord Herschell's Committee on the Indian currency. The telegram was to the effect that the Indian Council had passed an Act, to come into force at once, to carry out the plan recommended by the aforesaid Committee by which the free coinage of silver would be discontinued and arrangements would be made to issue rupees from the mint in exchange for gold and sovereigns at the rate of 16*d.* per rupee and to receive sovereigns and half-sovereigns at public treasuries in payment of Government dues at the same rate. On the question whether silver now on its way to India would be admitted to free coinage, the Indian Government had been instructed to admit it in any instance thought fitting. A conversation ensued, in which Mr. Goschen and other members took part, but which did not serve to bring out further points germane to the subjects specified in the telegram.

The Naval Estimates.

In Committee of Supply the House entered upon the consideration of the vote of £1,280,700 for victualling and clothing. After Lord G. Hamilton had made pathetic allusion to the recent disaster which had fallen on the nation, his lordship stated that 26 vessels, representing 170,000 tons, were this year to be added to the navy—the largest addition ever made to that branch of the service in time of peace. There was a considerable increase in the vote for seamen's clothing. Another point to which he would draw attention was the expediency of utilising refrigerated meat to a larger extent than heretofore in certain stations. The vote of £134,000 for medical establishments and services raised a question as to the use to which a lunatic asylum at Great Yarmouth, intended for seamen, had been put of late years. Other members of the House offered remarks on the same point.—Sir U. Kay-Shuttleworth, in reply, said that there were 140 naval and sixty Indian patients in the asylum. The cost of the establishment was about £12,000 a year, to which India contributed £5500. The Board of Admiralty was in favour of maintaining the institution. He had received a petition in 1891 from the medical attendants in Yarmouth Hospital and, after consideration, had decided not to increase the payment for their services. A member objected to the cost incurred for medical services, which he stated amounted to about £2 a head for 76,000 men. Another member protested against the scale of pay given to the attendants in the hospital at Stonehouse.—Mr. Forwood said he had inquired into the grievances complained of, and having regard to the nature of the work imposed upon them he thought they were fairly well paid. As to the employment of specialists to attend to diseases of the eye, which were of frequent occurrence, the late Admiralty Board had made provision for that contingency.

The Houses of the Working Classes Amendment Bill.

Sir J. Hibbert moved the second reading of this Bill, the object of which was, for the most part, to remove some discordancy in the working of the Act of 1890 in Ireland.

TUESDAY, JUNE 27TH.

Precautions against Cholera.

The Chancellor of the Exchequer, in answer to a question put by Mr. H. S. Foster, said he had been in communication with the President of the Local Government Board on the subject of the precautions which had been devised to prevent the introduction of cholera. The officers of the Customs had been instructed to render every assistance in their power in respect of visitation of shipping. This action would largely reduce the cost of additional medical inspection. There seemed to be no ground upon which cholera cases should be distinguished from those of other dangerous diseases which were liable to be communicated from one place to another. There were no Imperial funds available for the purpose referred to, unless fresh taxation were imposed. There was already a contribution from the local taxation account towards the salaries of medical officers of health and inspectors of nuisances to port sanitary authorities, and any increased cost in that direction must be a matter for further consideration.

Swine Fever.

Sir A. Acland-Hood asked the President of the Board of Agriculture if he was aware that in the county of Somerset, during the period from March 18th to June 14th, there had been 74 outbreaks of swine fever affecting 623 pigs, against 6 outbreaks affecting 28 pigs in the corresponding period of last year, and twelve outbreaks affecting 70 pigs in the first quarter of this year; and if the information in his possession still showed that the disease in this country was on the decrease.—Mr. Gardner said, in reply, that the figures quoted were substantially correct as regarded the county named. With respect to Great Britain as a whole, however, the number of swine attacked was still about 34 per cent. below that recorded for 1890, and about 55 per cent. less than the returns registered in 1891.

The Army Estimates.

In Committee of Supply on the Army Estimates the vote of £288,200 (for medical establishments) was discussed by several members. Mr. Hanbury thought the vote was an extravagant one. He believed that, if added together, it would be found that no less a sum than £700,000 was spent for medical attendance on some 130,000 men, exclusive of the Indian contingent. The hon. member also complained that the medical officers did not take a fair share of the executive duties in station hospitals.—Dr. Farquharson denied that the medical officers had combined to bring pressure to bear on the War Department; they had simply drawn attention to their grievances through the recognised channels.—Mr. Bartley referred disparagingly to the attempt on the part of medical officers to assume military titles.—Mr. Kenny spoke of the alterations that had been made in the appointments of examiners to the Army Medical Service. He advocated a return to the old term of five years for medical service in India.—Other hon. members criticised the amount required for medicines in the army, others thought army surgeons were too highly paid; others, on the other hand, thought that six years' service in India was in many cases too long.—Mr. Campbell-Bannerman complimented the Army Medical Staff on the diligence and success with which they performed their duties. He took up, somewhat in detail, the points raised by previous speakers, such as the desire to recur to the old regimental system, in lieu of the general hospital plan which had been adopted; the question of shortening the period of service in unhealthy stations, which he stated required serious consideration. With regard to compound titles he shared the reluctance felt by many that the medical character of an army doctor should be eclipsed by the combatant form.—After Mr. Broderick had adverted to the dissatisfaction which, he said, existed, not alone in the medical branch of the service but in the whole of the departments of the army, the vote was agreed to.

THURSDAY, JUNE 29TH.

The Metropolitan Asylums Board.

Mr. Cohen asked the President of the Local Government Board whether he would lay upon the Table of the House the regulations and restrictions prescribed by the Local Government Board for the reception of non-pauper patients into the hospitals under the control of the Metropolitan Asylums Board, pursuant to "The Public Health (London) Act, 1891," section eight, sub-section one.—Mr. Fowler replied that the Local Government Board had not prescribed regulations and restrictions for the reception of non-pauper patients into the hospitals under the control of the Metropolitan Asylums Board. The managers exercised the discretionary powers conferred upon them by the statute. In reply to a further question, Mr. Fowler said he was informed by the managers of the Metropolitan District Asylums Board that the number of beds available for small-pox patients was 1100, for cases of scarlet fever and enteric fever 2459, and for diphtheria and other cases 238. He regretted to say that all the scarlet fever and diphtheria beds were at present occupied, but arrangements were being made by which there would be 200 beds available for scarlet fever cases.

The Medicine Stamp Acts.

Mr. Gully asked the Chancellor of the Exchequer whether his attention had been called to the operation of the Medicine Stamp Acts, whereby an article labelled "mixture for neuralgia" was liable to duty, but if labelled "neuralgic mixture" it escaped duty; and whether he would consider the advisability of repealing the Medicine Stamp Acts, at least as regarded those preparations which were not protected by patent or by other special rights.—Sir William Harcourt said he was not aware that the facts were as alleged in the question, but if his honourable friend would give him the particulars of any case that illustrated his statement he would make further inquiry.

The Fever Hospital at Lewisham.

In reply to a question put by Mr. Penn on the above subject, the President of the Local Government Board said the proposal of the Metropolitan Asylums Board to purchase a site at Hither Green for the erection of a fever hospital was submitted to an exhaustive inquiry by the metropolitan inspector and the medical officer (for Poor-law purposes) of the former Board. After the inquiry the opponents of the site submitted several alternative sites. These proposals were submitted to the proper authorities and afterwards the right hon. gentleman himself visited the various sites in company with the Parliamentary Secretary and Sir Hugh Owen, and came to the conclusion that he would not be justified in withholding the assent of the Local Government Board to the proposal of the managers.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

AHEARNE, JOSEPH, L.R.C.S.Irel., L.R.C.P.Lond., has been appointed Visiting Surgeon to the Penal Establishment at Townsville, Queensland.

BEATTIE, J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Staindrop Division of the Teesdale Union Rural Sanitary District, vice Homfray.

BOWKER, R. S., M.R.C.S., M.R.C.P.Lond., L.R.C.P.Edin., has been appointed Honorary Assistant Surgeon to the Sydney Hospital, New South Wales.

BUTTON, H. G., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Junee, New South Wales.

CONNER, S., M.D., Ch.B.Irel., has been appointed Public Vaccinator, Laura, Victoria, Australia.

CUNNINGHAM, JAMES, M.B., Ch.M. Edin., has been appointed Government Medical Officer and Health Officer at Normanton, Queensland.

DOYLE, A. A., L.R.C.S., L.K.Q.C.P.Irel., has been appointed Surgeon to the Hospital at St. George, Queensland.

DRYLAND, LESLIE WINTER, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the General Infirmary, Northampton.

ECCLES, G. TOLCHER, M.A., M.B., B.C. Cantab., has been appointed Medical Officer to the Workhouse of the Braintree Union, vice Taylor, resigned.

ELLIS, W. H., M.R.C.S., L.S.A., has been appointed Certifying Surgeon for the Shipley District, vice Newstead, deceased.

GIBBONS, C. S., M.R.C.S., L.R.C.P. Edin., has been appointed Health Officer for the District of Zeeham, Tasmania.

GOLDIE, E. M., M.B., C.M. Edin., has been appointed Assistant Medical Officer to the Poplar and Stepney Sick Asylum District, vice Pearce.

GREEN, A. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse and Casual Wards of the City of London Union.

GREGERSON, WM. J., M.B., Ch.B. Melb., has been appointed Public Vaccinator in South Australia.

GRIMMER, G. K., M.B., C.M. Edin., has been appointed Medical Officer and Public Vaccinator, Dalmeny, vice Semple.

HALL, G., M.D. C.M. Edin., has been reappointed Medical Officer of Health for the Hambledon Union.

HARRIS, J. W., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Cranbrook and Frittenden Sanitary Districts and the Workhouse of the Cranbrook Union.

HARROLD, R. E., M.B., Ch.M., Edin., has been appointed a Public Vaccinator in South Australia.

HARTLEY, H., L.R.C.P., L.R.C.S.Edin., has been appointed Medical Officer for the Norton Sanitary District of the Malton Union, vice Mackay.

HOLLIS, HARRY, M.B., B.C. Cantab., has been appointed Assistant House Surgeon to the General Infirmary, Northampton.

HOOD, A. J., M.B., Ch.M.Glasg., has been appointed Honorary Assistant Physician to the Sydney Hospital, New South Wales.

HYDE, J. G., M.B.Toronto, L.R.C.P., L.R.C.S. Edin., has been appointed a Public Vaccinator for the District of Dunstan, New Zealand.

JOHNSTONE, W. H., L. Med. and Surg. Dubl., has been appointed a Public Vaccinator at Coalville, Victoria, Australia.

KAUFFMANN, C. J., M.D.Lond., M.R.C.P., M.R.C.S., has been appointed Medical Officer of the Workhouse Infirmary, Parish of Birmingham.

KERR, JAMES, M.A., B.C., M.D., D.P.H. Cantab., has been appointed Medical Superintendent to the Bradford School Board.

KNIGHTS, J. W., has been appointed Public Analyst for the Borough of King's Lynn.

LAKE, WELLINGTON, D.P.H. Cantab., M.R.C.S., has been appointed Medical Officer of Health for the Guildford Rural Sanitary Combined Districts, vice E. L. Jacob, resigned.

LINES, D. H. E., M.B., Ch.B. Melb., has been appointed Health Officer for the Newham Shire, Victoria, Australia.

MACKAY, E. A., M.B.Melb., has been appointed Honorary Medical Officer to the Out-patients of the Children's Hospital, Carlton, Melbourne, Victoria, Australia.

MCILROY, J. B., L.R.C.P.Lond., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Condobolin, New South Wales.

MCINERNY, J., L.S.A.Lond., M.D. Coll. P.S. New York, has been appointed *pro tem.* Certifying Surgeon for the Metropolitan District No. 1, Victoria, Australia.

MACNIDDER, JAMES, M.B., C.M., has been appointed Visiting Surgeon to the Hull and Sculcoates Dispensary.

MARTIN, ROBERT, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., L.M., has been appointed Medical Officer to the Banford Sick Fund Society.

MORSE, T. H., F.R.C.S. Eng, L.R.C.P. Edin., has been appointed Honorary Medical Officer of the Cromer Cottage Hospital.

MORTON, J., M.B. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Guildford Urban Sanitary District.

MORTON, W. A., M.D., Ch.M. Dubl., has been appointed Medical Officer for the Shillington Sanitary District of the Ampthill Union.

MUNRO, A. W., M.B., Ch.M.Edin., has been appointed Honorary Assistant Surgeon to the Sydney Hospital, New South Wales.

NICOLLS, A. G., L.R.C.S. Irel., L.R.C.P. Edin., has been appointed Public Vaccinator for the District of Arrow, New Zealand.

PARDEY, C. W., M.B., B.Ch.Melb., has been appointed Medical Officer of the Quarantine Station at Woodman's Point, near Fremantle, Western Australia.

PETERS, A. E. D. R., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Midhurst Union, vice Field, resigned.

RANDOLPH, CHARLES, L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary District of the Wellington (Som.) Union, vice Prideaux.

RENNIE, G. E., M.D.Lond., M.R.C.S., has been appointed Honorary Assistant Physician to the Sydney Hospital, New South Wales.

RILEY, F. R., L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the District of Winton, New Zealand.

ROBINSON, W. C., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Government Medical Officer and Vaccinator for the District of Cobar, New South Wales.

SECCOMBE, S. H., M.R.C.S., has been appointed Health Officer for the Towong Shire, Victoria, Australia, vice Harkness.

SHAW, G. H., M.R.C.S., has been appointed Honorary Surgeon to the Sheffield General Infirmary.

SPICER, W. T. HOLMES, M.A., M.B., F.R.C.S., has been appointed Ophthalmic Surgeon to the Metropolitan Hospital.

STAWELL, R. R., M.B.Melb., has been appointed Honorary Medical Officer to the Out-patients of the Children's Hospital, Carlton, Melbourne, Victoria, Australia.

STOCKER, E. G., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Daventry Union.

SWEETAPPLE, H. A., M.D., B.S.Durh., L.R.C.P.Lond., has been appointed a Public Vaccinator in South Australia.

TAYLOR, F. R. P., M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Third Assistant Medical Officer to the London County Asylum at Claybury.

TEMPLE, T. C., M.R.C.S., has been appointed Medical Officer for the Gravenhurst Sanitary District of the Ampthill Union.

TULL, TREVOR EDWARD, M.R.C.S., L.R.C.P., L.S.A. Lond., D.P.H. Cantab., has been appointed Registrar and Anæsthetist to the Royal Hospital for Children and Women, Waterloo-bridge-road, vice Fisher, resigned.

WALDO, F. J., M.D.Camb., M.R.C.S., D.P.H.Eng., has been appointed Medical Officer of Health for the Middle Temple Sanitary District of the County of London.

YEARSLEY, P. MACLEOD, M.R.C.S., has been appointed Assistant Demonstrator of Anatomy at the Westminster Hospital Medical School.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH OF CREWE.—Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Municipal Offices, Exchange-street, Crewe.

CHARING-CROSS HOSPITAL, W.C.—Assistant Surgeon.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238, Gray's-inn-road.—House Surgeon. Rooms, coals and lights provided.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Assistant Physician.

EAST LONDON HOSPITAL FOR SICK CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board and lodging provided.

GENERAL LYING-IN HOSPITAL, York-road, Lambeth, S.E.—Visiting Physician.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, 32, Portland-terrace, Regent's-park, N.W.—Physician to Out-patients.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE, E.C.—Demonstrator of Physiology.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Resident House Surgeon and to act as Secretary. Salary £100 per annum, with board, furnished apartments in the hospital, gas, firing and attendance.

UNIVERSITY COLLEGE, London.—Assistant House Surgeon.

YORKSHIRE COLLEGE, Leeds.—Demonstrator of Anatomy.

Births, Marriages and Deaths.

BIRTHS.

BAGE.—On June 13th, at Achernar, South Yarra, Melbourne, the wife of Charles Bage, M.A., M.D., of a daughter.

CHEESMAN.—On June 21st, at Church Lane House, Lymington, Hants, the wife of Dr. G. E. A. Cheesman, of a daughter.

GABB.—On June 23rd, at Poyle Mount, Guildford, the wife of J. Percy A. Gabb, M.D.Lond., of a son.

HEATH.—On June 25th, at Eastcombe Villas, Blackheath, the wife of Charles J. Heath, F.R.C.S., of a son (prematurely).

KIDD.—On June 22nd, at Bromsgrove, Worcestershire, the wife of Cameron Kidd, F.R.C.S., of a son.

O'DWYER.—On June 26th, at Mildmay Lodge, Dover, the wife of Surgeon-Colonel T. F. O'Dwyer, Army Medical Staff, Principal Medical Officer, South-Eastern District, of a son.

MARRIAGES.

BURROUGHS—BRIGG.—On June 21st, at Holy Trinity, Huddersfield, G. E. Elton Burroughs, Surgeon-Major Indian Army, to Florence Helena, only daughter of John Fligg Brigg, J.P., Greenhead Hall, Yorkshire.

BURTON—SIMON.—On June 15th, in Lichfield Cathedral, Surgeon-Captain Francis Henry Merceron Burton, M.D., Army Medical Staff, to Margaret Hosie Stephen, only daughter of Brigade-Surgeon George Simon, M.D., Whittington Barracks, near Lichfield.

HAROLD—TOCHER.—On June 17th, John Harold, L.R.C.P.Lond., of 91, Harley-street, W., to Isabella Downey Tocher, of 2, Cornwall-terrace, N.W.

RUTHERFORD—HENWOOD.—On June 27th, at the Wesleyan Chapel, Bromley, Kent, Vickerman H. Rutherford, B.A., M.B.Cantab., of Eldon-square, Newcastle-on-Tyne, to Evelyn Alice, third daughter of Paul Henwood, Esq., Church House, Bromley.

DEATHS.

HEMSTED.—On June 21st, at Freshwater Bay, Isle of Wight, Arthur Hemsted, M.R.C.S., L.R.C.P., of the Manor House, Walton-on-Thames, aged 41.

HENRY.—On June 24th, at Newport Pagnell, Alexander Henry, M.D., F.R.C.S., aged 70.

SMITH.—On May 25th, on board the *Persia*, on his way home from India, Surgeon-Captain E. S. C. Smith, I.M.S.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 29th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
June 23	29·30	S.W.	59	57	120	69	56	0·25	Cloudy
,, 24	29·42	N.W.	56	52	105	65	51	0·02	Cloudy
,, 25	29·72	W.	60	54	108	70	50	0·02	Cloudy
,, 26	29·84	S.W.	57	55	100	69	54	0·01	Raining
,, 27	29·69	S.W.	65	64	99	71	56	0·04	Raining
,, 28	29·64	S.W.	64	61	123	74	59	0·21	Cloudy
,, 29	29·93	S.W.	60	57	111	73	57	0·04	Cloudy

Medical Diary for the ensuing Week.

Monday, July 3.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, July 4.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, July 5.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. William Duncan, Dr. Maclean and others. Dr. Giles: Sickness of Pregnancy.—Dr. Addinsell: Note on the Effect of the Influenza Poison upon the Lying-in Woman.

Thursday, July 6.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, July 7.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Patients and Card Specimens at 8 P.M. Mr. Holmes Spicer: A case of Ectopia Pupillæ.—Mr. H. Work Dodd: A case of Pemphigus of the Conjunctiva.—Messrs. Richardson Cross and Treacher Collins: Tumour in the Anterior Chamber following the Implantation of an Eyelash.—Mr. Batten: Some Points in the Diagnosis and Prognosis in Pathological Myopia.—Mr. Simeon Snell: Two cases of Palsy of the Third Nerve associated with Migraine. After the ordinary meeting the General Annual Meeting will be held.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital).—8.30 P.M. Annual General Meeting. Election of new officers and Council and other business. The President's Valedictory Address.

Saturday, July 8.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

THE POWERS OF MEDICAL OFFICERS OF HEALTH IN SCOTLAND.

A CORRESPONDENT states the following case, upon the merits of which he desires an opinion:—

"A medical officer of health in a large town, who also engages in private practice, met with a case of scarlet fever in his practice. He concluded that the contagion had been contracted in a certain large public school, so he called on the headmaster of the school and examined, with him, the children attending the same class as the patient. Some of the girls were taken into a private room in the school and, without any woman being present, had their boots and stockings removed and their feet washed with soap and cold water. The medical officer then wrote a letter to the headmaster informing him that the children of Mrs. A. would not be able to resume attendance for at least a week and that he should see that these children and those of Mrs. B. were provided with a medical certificate stating that they were free from infectious disease. The family doctor of Mrs. A. certified that a child of Mrs. A. was perfectly healthy in every respect and quite free from all signs of scarlet fever, and that he considered her and the other members of the family fit to attend school. The same doctor certified that another child of Mrs. A. was desquamating on a part of the foot, most likely from chilblains, since there were no facts pointing to scarlet fever. Every child of Mrs. A., he said, was then and had been in perfect health for five months previously. Two other medical men who were called in agreed with the opinions of the family doctor. The child of Mrs. B., who had been declared by the medical officer of health on a Friday afternoon as suffering from scarlet fever, was admitted to school on Monday immediately following, but a child of Mrs. A. who presented a certificate of a clean bill of health on the Tuesday was refused admission.

"The Compulsory Notification of Diseases Act is not in force in the town in question. The local authority of the town, which is a seaport of upwards of 70,000 inhabitants, state that, in rejecting the adoption of this Act, they are largely influenced by the expressed opinion of their medical officer of health on the value of the Act in the particular circumstances of the town.

"The School Board of the town, in view of what they term the great scandal consequent upon the action of the medical officer of health, have now made regulations. These are, in brief, 'that should the medical officer of health visit a school for the purpose of ascertaining whether any of the pupils were suffering from infectious disease, the headmaster shall allow the medical officer to examine the pupils in the class-rooms but shall not allow them to be examined in a private room, to have their boots and stockings taken off, or to be undressed to any extent; that a certificate from

the medical officer was necessary before the child was excluded from school; and that if whilst a pupil was excluded from school under a certificate of the medical officer a certificate by another medical man at variance therewith be presented to the headmaster, he should at once forward both certificates to the clerk to be dealt with by the board.'"

The points on which our opinion is desired are as follows:—

(1) Did the medical officer of health act according to the custom of the medical profession in using his public position as the means of investigating certain questions that arose in connexion with his private practice?

(2) Assuming that the medical officer had a right to enter the school on reasonable suspicion that a nuisance, in terms of the Public Health (Scotland) Act, existed there, was he acting properly in depriving girls of part of their clothing and examining them without the consent of their parents?

(3) Was the headmaster of the school justified in allowing this to be done?

(4) Is the School Board entitled to enforce the regulations it has adopted so as to prevent the medical officer of health from examining children in this same fashion if he thinks such examination necessary?

(5) Would the adoption of the Compulsory Notification of Diseases Act be an improvement on this method of tracing the presence of disease and preventing the spread of infection?

We propose to answer these questions generally instead of categorically. A case of infectious disease is not a nuisance under the Public Health (Scotland) Act, nor does any law relating to Scotland empower the medical officer of health to enter either a school or a private house on account of the existence therein of infectious disease, even when a certificate under the Notification Act has been received from the medical attendant. In practice admission is very rarely refused, and, of course, a medical officer is within his right in seeking information. In Scotland neither the sanitary authority nor the medical officer has any power to exclude from school attendance any children of a family other than those who themselves are suffering from infectious disease. The medical officer is not the servant of the School Board, and the board has no power to impose on him the duty of certifying unfitness for school attendance, and it would be obviously a disastrous policy to continue to admit to school infectious cases certified as such by the private medical attendant, simply because there was not also a certificate from the medical officer of health.

Our general answer to the questions would be as follows: It is quite reasonable that a medical officer of health knowing of a case of scarlet fever in his own practice should make general inquiries in the schools in which it may have been contracted; and we can understand his ardour leading him to such steps as were taken here. But the proceeding is not commendable or even legal. The removal of stockings does not enable a satisfactory examination of the skin for desquamation to be made, and any such examination should take place at home, in the presence of the parents, and should be made by the medical attendant of the family. The whole case shows the danger of the absence of a Notification Act and the inconvenience of the assumption of the duties of medical attendant by the medical officer of health. The regulation of the Board requiring a certificate from the medical officer of health before excluding a child from school seems especially absurd; for it would imply the right of the School Board to dictate to parents in respect of their medical attendance and permit the admission of children who might be certified by their proper medical attendant to be suffering from infectious disease.

ATTENDANCE ON DOMESTIC SERVANTS IN FRANCE.

A PARIS *juge de paix* has decided, in a case where a medical man sued a master for his fees for attending a domestic servant, that the master must pay on the ground that the "servant having but small wages, insufficient to enable her to pay the doctor herself, would have been obliged to go to a hospital if she could not have been attended in the house," and also that "it is the general custom for masters to pay for attendance on domestic servants." This alleged custom is, it is to be feared, as much honoured in the breach as in the observance both in France and in England.

Mysticus.—The animals looked upon by the ancients as closely related to the God of Medicine were the dog, the cock, the goat and the serpent. A full account of these will be found in "Medical Symbolism in connexion with Historical Studies in the Arts of Healing and Hygiene," by the late Thomas S. Sozinskey, M.D., Ph.D., published by F. A. Davis, Philadelphia and London.

MILITARY SURGEONS AND CIVIL PRACTICE.

A CORRESPONDENT propounds the following queries: Are military surgeons either in England, India or the colonies allowed to engage in civil practice? Can they so engage in civil practice without being interfered with by their superior officers? Is civil practice formally allowed by the regulations or is it merely tolerated? Have complaints been made at any time by civil practitioners or medical associations (societies) against military surgeons for engaging in civil practice? If so, with what results? What differences exist in India with regard to civil practice between the Army and the Indian Medical Services?

*** We do not think it is officially laid down in any Regulations that military surgeons may engage in civil practice, but it is commonly done and has never been prohibited—indeed, it would, we imagine, be considered useful and beneficial as regards the public and the medical officer, provided, of course, that it did not interfere with the performance of his duties. The Indian Medical Service is a military service, but it practically consists of civil and military branches, and the large hospitals in that country and the civil surgeoncies of stations are appointed from the ranks of that service. Members of the medical staff of the British army are not prohibited from practising outside their own special sphere of duties and would be at liberty to act as consultants or attend a case if asked to do so.—ED. L.

G. J. B. (Aberdare).—We cannot at the moment give the name of any separate treatise on hydatids of the liver; but if our correspondent refers to THE LANCET, vol. ii. 1891, p. 990, he will find the review of a book dealing with the clinical aspects of the disease by Dr. Jas. Graham; the subject was also referred to at the Australian Medical Congress, of which there is a notice in THE LANCET, vol. ii. 1892, p. 1121.

L.R.C.P.—Our correspondent should communicate with the authorities of the University named, who will doubtless accord full attention to his inquiry.

CALF LYMPH.

To the Editors of THE LANCET.

SIRS,—Will some experienced medical practitioner inform me through THE LANCET whether calf lymph cannot be prepared on points without the admixture of blood, scales and hairs? On some points I recently received the lymph was so red—sanguineous—that I hesitated to use it before submitting a point each to three purveyors of calf vaccine lymph. The first writes: "The point is certainly a very nasty-looking thing and is undoubtedly charged with bloody vaccine; however, the admixture of blood with calf vaccine is not considered objectionable." The second writes: "The point has blood on it, but that is of no consequence. It is difficult to collect calf lymph without blood, especially on points." The third regrets his "inability to comply with my request." If sanguineous calf lymph is not objectionable, why should the rule exist in Stockholm that the lymph is not to be used until after the calf has been killed and proved perfectly free from disease? Why should not the British Government follow the wise example of nearly all continental countries and have a dépôt for its preparation under the direct supervision of a reliable expert and supply it freely to medical men? Personally I do not use any but liquid calf lymph supplied in tubes.—I am, Sirs, yours faithfully,

Seaforth, June 12th, 1893. C. H. LEET, F.R.C.S. Eng.

MEDICAL MUNIFICENCE.

A FINE church is about to be built for the Moscow University Clinics from a fund of about £20,000 which has been given for the purpose by Dr. A. M. Makeieff, Professor of Midwifery in the University.

Mr. E. W. Duncan.—The only way for our correspondent to obtain the right to practise in Great Britain is to pass one of the qualifying examinations under the Medical Acts. If his curriculum at all corresponds with that of British authorities there would not be, we think, much difficulty in being admitted to the examinations.

Mr. William Storr (Brixton) is thanked for his communication, which, however, is hardly suited to our columns.

During the week marked copies of the following newspapers have been received:—*Bucksham Standard, Market Harborough Advertiser, Kentish Observer, Todmorden Advertiser, Cork Constitution, Personal Rights Journal, Manchester Examiner, Morning, Freeman's Journal, Times of India, Pioneer Mail, Le Temps (Paris), City Press, Mining Journal, Weekly Free Press and Aberdeen Herald, Leeds Mercury, Reading Mercury, Local Government Chronicle, Builder, Architect, Hertfordshire Mercury, Bristol Mercury, Sala's Journal, Yorkshire Post, Liverpool Daily Post, Glasgow Herald, Ashbury Park Journal (New Jersey), Staffordshire Advertiser, Southwark Recorder, West Middlesex Advertiser, Surrey Advertiser, Daily News, Chesham Examiner, Windsor Gazette, Cheltenham Examiner, Bury Times, Southern Echo, North British Advertiser, Empire (Toronto), Warminster Herald, Evening Telegraph (Dundee), Local Government Journal, Harrogate Advertiser, Belfast Evening Telegraph, Southport Visitor, Scotsman, Citizen &c. &c.*

Communications, Letters &c. have been received from—

A.—Dr. Winslow Anderson, California; Messrs. Armour and Co., London; A. D., London; Alpha, Manchester.

B.—Dr. Fletcher Beach, Dartford; Dr. I. MacW. Bourke, London; Mr. Thomas Bryant, London; Mr. J. Burnet, Edinburgh; Mr. T. B. Browne, London; Mr. F. E. Bennett, London; Mr. W. O. Barsham, Bournemouth; Mr. A. Blakiston, Wareham; Mr. W. H. Booth, Plymouth; Mr. W. P. Brook, Herts; Mr. W. S. Battiss, Southsea; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. Burgoyne, Burbidges and Co., London; Bovril Limited, London.

C.—Dr. T. C. Craig, Knowle; Dr. F. W. Collinson, Preston; Mr. R. Brudenell Carter, London; Mr. Herbert L. Carre-Smith, London; Miss Cooper, London; Messrs. Cleave and Son, Crediton; Chesterfield and North Derbyshire Infirmary, Secretary of; Chemist, London.

D.—Dr. J. D. Dixon, Newcastle-on-Tyne; Dr. G. Dickson, Glasgow; Mr. Alban Doran, London; Mr. J. W. Davies, Ebbw Vale; Messrs. Duncan, Flockhart and Co., Edinburgh; Messrs. A. De St. Dalmas and Co., Leicester.

E.—Embassy of the United States, London; Edinburgh School of Medicine, Dean of.

F.—Dr. Alex. Francis, Barcaldine; Dr. H. E. Fraser, Inverness; Mr. N. Hay Forbes, Tunbridge Wells; Mr. J. J. Flynn, Dublin; Messrs. Fletcher, Fletcher and Hereneon, London.

G.—Dr. A. Gray, Bradford; Mr. R. J. Godlee, London; Surgeon-Major H. R. Greene, Southsea; Mr. John Gay, London; Messrs. C. Griffin and Co., London; Messrs. Goodall and Suddick, Leeds; Gynæcology, London.

H.—Sir C. M. Humphry, Cambridge; Dr. J. B. Hellier, Leeds; Dr. M. K. Hargreaves, London; Dr. J. A. Hutton, Scarborough; The Viscount and Viscountess Halifax, London; Mr. James T. Hoskins, Oxford; Mr. C. G. Heard, Hunmanby; Mr. John Harold, London; Mr. J. Heywood, Manchester; Messrs. J. A. Hadden and Co., London; Messrs. C. J. Hewlett and Son, London; Hospital for Diseases of the Chest, London, Secretary of; High Shot House, Twickenham, Medical Superintendent of.

I.—Dr. R. N. Ingle, Clacton-on-Sea; Inebriety, Society for the Study of, London, Secretary of.

J.—Dr. H. Macnaughton Jones, London; Jessop Hospital for Women, Sheffield, Secretary of; Jeyes' Sanitary Compounds Co., London, Manager of.

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